

From: Chan, Christina
Sent: Tuesday, August 06, 2002 12:40 PM
To: Minnifield, Nita; STIC-Biotech/ChemLib
Subject: RE: rush sequence search

Please rush. Thanks Chris

-----Original Message-----

From: Minnifield, Nita
Sent: Tuesday, August 06, 2002 12:16 PM
To: Chan, Christina
Subject: rush sequence search

Christina,
2 month amdt. due, please approve.

thanks, Nita

STIC

09/635679

Please do a commercial and interference sequence search on SEQ ID NO: 3 of this application.

Please provide paper copy of results.

*Reviewed
8/02*

Thanks,

Nita M. Minnifield

Art Unit 1645

Office CM1-8A07

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703-305-3394

Point of Contact:
Toby Port
Technical Info. Specialist
CM1 6A04
703-308-3534

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Searcher: _____
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Searcher Prep/Review: _____
Clerical: _____
Online time: _____

TYPE OF SEARCH:
NA Sequences: _____
AA Sequences: _____
Structures: _____
Bibliographic: _____
Litigation: _____
Full text: _____
Patent Family: _____
Other: _____

VENDOR/COST (where applic.)
STN: _____
DIALOG: _____
Questel/Orbit: _____
DRLink: _____
Lexis/Nexis: _____
Sequence Sys.: _____
WWW/Internet: _____
Other (specify): _____

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GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
OM protein - protein search, using sw model
Run on: August 7, 2002, 09:14:41 ; Search time 29.89 Seconds
(without alignments)
111.483 Million cell updates/sec
Title: US-09-635-679c-3
Perfect score: 155
Sequence: 1 HAEFTSDVSSYLEGQAKEFLAWLVKGR 30
Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5
Searched: 747574 seqs, 111073796 residues
Total number of hits satisfying chosen parameters: 747574
Minimum DB seq length: 0
Maximum DB seq length: 2000000000
Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_032802:*

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3:	/SIDSI/gcgdata/hold-geneseq/geneseq-emb1/AA1982.DAT:*
4:	/SIDSI/gcgdata/hold-geneseq/geneseq-emb1/AA1983.DAT:*
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10:	/SIDSI/gcgdata/hold-geneseq/geneseq-emb1/AA1989.DAT:*
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12:	/SIDSI/gcgdata/hold-geneseq/geneseq-emb1/AA1991.DAT:*
13:	/SIDSI/gcgdata/hold-geneseq/geneseq-emb1/AA1992.DAT:*
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22:	/SIDSI/gcgdata/hold-geneseq/geneseq-emb1/AA2001.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	153	98.7	30	15	Insulinotropin der
2	153	98.7	30	15	Insulinotropin (GL
3	153	98.7	30	16	Amidated Glucagon
4	153	98.7	30	16	Glucagon like pept
5	153	98.7	30	16	Human glucagon lik
6	153	98.7	30	17	Target peptide (GL
7	153	98.7	30	17	GLP1(7-35)-NH2. S
8	153	98.7	30	18	Glucagon-like pept
9	153	98.7	30	19	Glucagon-like pept
10	153	98.7	30	19	GLP-1(7-36). Homo
11	153	98.7	30	19	Glucagon-like pept

12	153	98.7	30	20	AA42935	Glucagon-like pept
13	153	98.7	30	20	AA27374	Glucagon-like pept
14	153	98.7	30	20	AA39773	Glucagon like pept
15	153	98.7	30	20	AA34198	GLP-1 mutant pept
16	153	98.7	30	20	AA31503	Glucagon-like pept
17	153	98.7	30	20	AA22166	GLP-1-like peptide
18	153	98.7	30	20	AA03719	Amino acid sequenc
19	153	98.7	30	21	AA01283	GLP-1 peptide SEQ
20	153	98.7	30	21	AA01340	Human glucagon-lik
21	153	98.7	30	21	AA021108	Modified Glucagon
22	153	98.7	30	21	AA07294	Modified Glucagon
23	153	98.7	30	21	AA07313	Glucagon-like pept
24	153	98.7	30	21	AA07314	Mammalian glucagon
25	153	98.7	30	21	AA53280	Human glucagon-lik
26	153	98.7	30	21	AA78949	An insoluble gluc
27	153	98.7	30	22	AA007375	Glucagon-like pept
28	153	98.7	30	22	AA009260	GLP-1 peptide #2.
29	153	98.7	30	22	AA63303	GLP-1. Unidentifi
30	153	98.7	30	22	AA62336	Pancreatic hormone
31	153	98.7	30	22	AA83291	Pancreatic hormone
32	153	98.7	30	22	AA83291	Human glucagon-lik
33	153	98.7	30	22	AA870461	Glucagon-like pept
34	153	98.7	30	22	AA891170	Glucagon-like pept
35	153	98.7	30	22	AA891181	Glucagon-like pept
36	153	98.7	30	22	AA860124	Glucagon-like pept
37	153	98.7	30	22	AA860249	Glucagon-like pept
38	153	98.7	30	22	AA836416	Glucagon-like pept
39	153	98.7	30	22	AA836429	Glucagon-like pept
40	153	98.7	30	22	AA885922	Glucagon-like pept
41	153	98.7	31	8	AA71072	Insulinotropic pep
42	153	98.7	31	11	AA07397	Glucagon-like pept
43	153	98.7	31	12	AA013420	Glucagon-like pept
44	153	98.7	31	12	AA013422	Glucagon-like pept
45	153	98.7	31	14	AA42668	Glucagon-like pept

ALIGNMENTS

RESULT 1

ID	AA45435	standard; protein; 30 AA.
AC	AA45435;	
DT	27-JUN-1994	(first entry)
DE	Insulinotropin derivative.	
KW	Insulinotropin; activity; enhancing insulin activity; treatment;	
KW	Type II diabetes.	
OS	Synthetic.	
PN	WO325579-A.	
PD	23-DEC-1993.	
PF	14-APR-1993;	93WO-US03388.
PR	15-JUN-1992;	92US-0899073.
PA	(PFIZ) PFIZER INC.	
PI	Andrews GC, Daumy GO, Francoeur ML, Larson ER;	
DR	WPI; 1994-007457/01.	
PT	New derivs. of glucagon-like peptide 1 and insulinotropin - used for	
PT	enhancing insulin action in a mammal, partic. by iontophoretic admin.	
PS	Claim 3; Page 20; 32pp; English.	

Wed Aug 7 10:40:09 2002

CC The sequence is that of a derivative of insulinotropin which
 CC has insulinotropic activity and is useful for enhancing insulin
 CC action in a mammal, partic. for treating Type II diabetes
 CC (claimed). It is partic. suited for delivery to a mammal by
 CC ionophoresis.
 XX
 XX

SQ Sequence 30 AA;

Query Match 98.7%; Score 153; DB 15; Length 30;
 Best Local Similarity 96.7%; Pred. No. 5e-15; Gaps 0;
 Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30
 |||||
 Db 1 haegtftsdvssylegqaakefiawlvkgr 30

RESULT 2

AAR63247
 ID AAR63247 standard; peptide; 30 AA.

XX AAR63247;

DT 02-MAY-1995 (first entry)

XX Insulinotropin (GLP-1(7-36)) for use in treating NIDDM.

XX Insulinotropic activity; GLP-1; glucagon-like protein 1; NIDDM;
 KW non-insulin dependent diabetes mellitus; insulinotropin; truncated.

XX Synthetic.

XX EP619322-A.

PD 12-OCT-1994.

XX 10-FEB-1994; 94EP-0300981.

XX 07-APR-1993; 93US-0044133.

XX (PFIZ) PFIZER INC.

PA (PFIZ) PFIZER CORP.

XX Danley DE, Gelfand RA, Geoghegan KF, Kim Y, Lambert WJ;

PI Qi H, Cih, Hong Q, Yesook K;

XX WPI; 1994-311774/39.

XX Treatment of non-insulin dependent diabetes mellitus - using a
 PT glucagon-like peptide 1 or deriv. with prolonged action for
 PT sustained glycaemic control

XX Claim 2; Page 46; 70pp; English.

XX This peptide is GLP-1(7-36) [GLP = glucagon-like peptide], a truncated
 CC deriv. of GLP-1 and its deriv.s are useful in the treatment of
 CC Non-Insulin Dependent Diabetes Mellitus (NIDDM). During processing in
 CC the pancreas and intestine, GLP-1 (AAR63245) is converted to a 31 amino
 CC acid peptide having amino acids 7-37 of GLP-1, alternatively referred
 CC to as insulinotropin. GLP-1(7-37) has insulinotropic activity, ie. it
 CC is able to stimulate, or cause to be stimulated, the synthesis of the
 CC hormone insulin. Other derivs. of GLP-1 are shown in AAR63246-51. It
 CC has been discovered that prolonged plasma elevations of GLP-1, and
 CC related polypeptides, are necessary during the meal and beyond to
 CC achieve sustained glycaemic control in patients with NIDDM. The invention
 CC provides a compen. that has prolonged action after each administration.

XX Sequence 30 AA;

Query Match 98.7%; Score 153; DB 15; Length 30;
 Best Local Similarity 96.7%; Pred. No. 5e-15;

Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30
 |||||
 Db 1 haegtftsdvssylegqaakefiawlvkgr 30

RESULT 3

AAR69063
 ID AAR69063 standard; peptide; 30 AA.

XX AAR69063;

DT 23-AUG-1995 (first entry)

XX Amidated Glucagon like peptide 1 (GLP1) (7-36)-NH2.

DE Glucagon Like Peptide; GLP; transpeptidation; endopeptidase;
 KW trypsin; thrombin; cleavage.

XX Synthetic.

XX Key Location/Qualifiers

FT Modified-site 30

FT /label= Arg-NH2

XX WO9503405-A.

XX 02-FEB-1995.

XX 19-JUL-1994; 94WO-US08125.

XX 20-JUL-1993; 93US-0095162.

XX (BION-) BIONEERASKA INC.

XX Henriksen D, Manning S, Partridge B, Stout J, Wagner FW;

XX WPI; 1995-075233/10.

XX Transpeptidation of recombinant polypeptides - using
 PT endopeptidase such as trypsin or thrombin to modify C-terminal
 PT residue.

XX Claim 33; Page 50; 69pp; English.

XX The naturally occurring sequence of Glucagon Like Peptide 1 (GLP1)
 CC is AAR69072. It is a 36 AA peptide that has been recombinantly
 CC produced but without a mechanism for providing for the amidation of
 CC the C-terminal Arg residue. Amidated recombinant GLP1 (7-36)NH2
 CC (AAR69063) was prepd. from a multicopy fusion protein contg. four
 CC copies of a modified truncated GLP peptide having AA residues 7-34
 CC of the native polypeptide and the terminal AA residues A-F-A at
 CC residues 35-37 (GLP1 (7-34)-A-F-A) (AAR69064). The recombinant GLP1 (7-
 CC 34)-A-F-A can be transpeptidated to yield the modified recombinant
 CC native GLP1 (7-36)-NH2 (AAR69063) as follows. Trypsin was used to
 CC cleave the peptide at the Lys-Ala bond in the presence of either
 CC Gly-Arg-NH2 or Gly-Arg-Gly addition units so that the cleavage of
 CC the Ala-Phe-Arg leaving unit is followed by the addition of
 CC Gly-Arg-NH2 or Gly-Arg-Gly to the core GLP1 (7-34) to yield either
 CC amidated 7-36 GLP1-NH2 or GLP1 7-36 with a terminal Gly (AAR69065).

XX Sequence 30 AA;

Query Match 98.7%; Score 153; DB 16; Length 30;
 Best Local Similarity 96.7%; Pred. No. 5e-15; Gaps 0;
 Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30
 |||||

Db 1 haegtftsdvssylegqaakefiawlvkgr 30

RESULT 4
AAR79809
ID AAR79809 standard; peptide; 30 AA.
XX
AC AAR79809;

XX 01-FEB-1996 (first entry)
XX
XX Glucagon like peptide GLP-1 (7-36)amide.

XX Glucagon like peptide; GLP-1 (7-36)amide; type II diabetes;
KW non-insulin dependent; divalent metal cation; zinc.
XX Synthetic.

XX Key Location/Qualifiers
FH Modified-site 30
FT /note= "amidated"

XX EP658568-A1.
XX
XX 21-JUN-1995.

XX 02-DEC-1994; 94EP-0308950.

XX 09-DEC-1993; 93US-0164277.

XX (ELIL) LILLY & CO ELI.

XX Galloway JA, Hoffmann JA;

XX WPI; 1995-217011/29.

XX New divalent metal complexes of glucagon-like peptide 1 - useful for
PT treating type II diabetes

XX Claim 4; Page 4; 10pp; English.

XX AAR79809 is the glucagon like peptide GLP-1 (7-36)amide. When
CC complexed to a divalent metal cation (pref. zinc) it can be
CC used to treat type II (non-insulin dependent) diabetes.

XX Sequence 30 AA;

Query Match 98.7%; Score 153; DB 16; Length 30;
Best Local Similarity 96.7%; Pred. NO. 5e-15;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30
DB 1 haegtftsdvssylegqaakeflawlvkgr 30

RESULT 5
AAR80348
ID AAR80348 standard; peptide; 30 AA.
XX
AC AAR80348;

XX 28-FEB-1996 (first entry)
XX
XX Human glucagon like peptide (GLP-1).

XX Extendin-4; diabetes mellitus; hyperglycaemia;
KW insulinotropic peptide; glucagon like peptide; GLP-1.

XX Homo sapiens.

XX US5424286-A.

XX 13-JUN-1995.

XX 24-MAY-1993; 93US-0066480.
XX
XX 24-MAY-1993; 93US-0066480.
XX

XX (ENGJ/) ENG J.

XX Eng J;

XX WPI; 1995-262627/34.

XX Stimulating/inhibiting insulin release with extendin polypeptide(s) -
PT for treating diabetes mellitus and preventing hyperglycaemia.

XX Disclosure; Columns 5-6; 17pp; English.

XX AAR80548 is the human glucagon like peptide (GLP-1), to which the
CC Heloderma horridum/suspectum extendin-3/-4 peptides are analogous.
CC The extendin peptides are insulinotropic, and can therefore be used
CC in the treatment of diabetes mellitus (types I or II), and for the
CC prevention of hyperglycaemia.

XX Sequence 30 AA;

Query Match 98.7%; Score 153; DB 16; Length 30;
Best Local Similarity 96.7%; Pred. NO. 5e-15;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30

DB 1 haegtftsdvssylegqaakeflawlvkgr 30

RESULT 6.

AAR98956

ID AAR98956 standard; peptide; 30 AA.

XX
AC AAR98956;

XX 15-JAN-1997 (first entry)

XX Target peptide (GLP1(7-36)) used in fusion protein construct.

XX Fusion protein construct; isolation; purification;
KW growth hormone releasing factor, glucagon-like peptide 1,
KW parathyroid hormone; inclusion body; carbonic anhydrase.

XX Synthetic.

XX WC9617942-A1.

XX 13-JUN-1996.

XX 07-DEC-1995; 95WO-US15800.

XX 07-DEC-1994; 94US-0350530.

XX (BION-) BIONEERASKA INC.

XX De LA MOTTE RS, Henriksen DB, Holmquist B, Manning SD;
XX Partridge BE, Stout JS, Wagner FW;

XX WPI; 1996-287186/29.

XX Isolation and purificn of peptide(s) from fusion protein constructs
PT -which include a carbonic anhydrase and a variable fused
PT polypeptide

XX Claim 58; Page 50; 67pp; English.

XX A new method for the isolation and/or purification of a recombinant
CC peptide employs a fusion protein construct (FPC) comprising a

AA	Sequence	30 AA;
SN		

QY	1	HAEGTFTSDVSSYLEGAAKEFLAWLVKGR	30
QY	1	HAEGTFTSDVSSYLEGAAKEFLAWLVKGR	30
nb	1	haegtftsdvssylegaaakeflawlvkgr	30

AA
AC

GLP1(7-35)-NH2.

Synthetic

XX PN WO9617941-A2.

XX
BE
07-DEC-1995: 95WO-US15799.

XX
PA : (PTON-) BYONERRASKA INC.

WPI: 1996-287185/29.

XX Example 16: page 69; 93pp; English.
PS

AA	Sequence	30 AA;
SO		

1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 300
|||||
1 haegtftsdvssylegqaakeflawlvkgr 300

X C AAW16383:

classon-like pentide-1 (7-36).

XXXXXX

X

X3

01-JUN-1990; 90US-0532111.

XX

Glucagon-like peptide-1 fragment comprising amino acids 7-36 - useful for enhancing insulin production in pancreatic islet cells, especially for treating type II diabetes mellitus

Glucagon-like peptide-1 (7-36) (AAW16383) comprises amino acid residues 7-36 of rat glucagon-like peptide-1 (GLP-1) (see also section 7.4). It is naturally produced from GLP-1 in the intestine

XX	sequence	30 AA:
50		

```

1 HAEGTFTSDVSSYLEGAAKEFLAWLVKGR 30
QY
1 HAEGTFTSDVSSYLEGAAKEFLAWLVKGR 30

```

RESULT

XX Synthetic.
OS Homo sapiens.
XX Key Location/Qualifiers
FH Modified-site 30
FT /note= "amidated"
FT
XX
XX W09808873-Al.
XX
XX
XX PD
XX PF
XX 26-AUG-1997; 97WO-US15042.
XX
XX 21-AUG-1997; 97US-0024982.
XX
XX 30-AUG-1996; 96US-0024982.
XX
XX (ELIL) LILLY & CO ELI.
XX
XX Efendic S;
XX
XX WPI; 1998-239722/21.
XX
XX Use of glucagon-like peptide-1 and analogues and their derivatives
PT -to attenuate post-surgical catabolic changes, insulin resistance
PT and hormonal responses to stress
XX
XX Claim 1; Page 13; 42pp; English.
XX
XX The present sequence represents a glucagon-like peptide-1 (GLP-1)
CC analogue, which is used in the methods of the invention. The methods
CC are: (1) for attenuating post-surgical catabolic changes and insulin
CC resistance, comprising administering glucagon-like peptide-1 (GLP-1), a
CC GLP-1 analogue, a GLP-1 derivative, or a salt of this compound; (2) for
CC attenuating post-surgical catabolic changes and hormonal responses to
CC stress, comprising administering a compound which exerts insulino-tropic
CC activity by interacting with the same receptor (or receptors) with which
CC GLP-1, GLP-1 analogues and GLP-1 derivatives interact in exerting their
CC insulino-tropic activity; and (3) for attenuating post-surgical catabolic
CC changes and hormonal responses to stress, comprising administering a
CC compound which enhances insulin sensitivity by interacting with the same
CC receptor (or receptors) with which GLP-1, GLP-1 analogues and GLP-1
CC derivatives interact to enhance insulin sensitivity. The processes are
CC useful for improving recovery after surgery by preventing the catabolic
CC reaction and insulin resistance caused by surgical trauma and
CC exacerbated by pre-operative fasting. GLP-1's short half-life, and hence
CC the need for continuous administration, are not disadvantages, as the
CC patient is usually hospitalised before surgery, and fluids are
CC continuously administered parenterally, before, during and after surgery.
XX
XX Sequence 30 AA;
SQ

Query Match 98.7%; Score 153; DB 19; Length 30;
Best Local Similarity 96.7%; Pred. No. 5e-15; Indels 0; Gaps 0;
Matches 29; Conservative 1; Mismatches 0

Qy 1 HAEGTFTSDVSSYLEGQAQKEFLAWLVKGR 30
Db 1 haegtftsdvssylegqaakeflawlvkgr 30

RESULT 12
AAV42935
ID AAV42935 standard; peptide; 30 AA.
XX
XX AAV42935;
AC
XX
XX 20-DEC-1999 (first entry)
DT
XX
XX Glucagon-like peptide GLP-1 (7-36).
DE
XX
XX Glucagon-like peptide; GLP-1; antidiabetic; anti-obesity;
KW

KW insulintropic; appetite suppressant.
XX
XX OS Homo sapiens.
XX
XX W09943707-Al.
XX
XX PD
XX 02-SEP-1999.
XX
XX 25-FEB-1999; 99WO-DK00085.
XX
XX 27-FEB-1998; 98DK-0000263.
XX
XX 27-FEB-1998; 98DK-0000268.
XX
XX 08-APR-1998; 98DK-0000508.
XX
XX (NOVO) NOVO-NORDISK AS.
XX
XX Knudsen LB, Huusfeldt PO, Nielsen PF, Madsen K;
XX WPI; 1999-540561/45.
XX
XX New N-modified peptide derivatives, useful for treating diabetes,
XX insulin resistance and obesity
XX
XX Disclosure; Page 1; 62pp; English.
XX
XX New glucagon-like peptide-1 (GLP-1) derivatives are disclosed which
CC comprise residues 7-45 of GLP-1 or a fragment thereof, preferably
CC residues 7-36, 7-37 or 7-38 or their analogues, in which (a) a
CC lipophilic substituent is attached to at least one amino acid and (b)
CC the N-terminal is substituted with a group containing an optionally
CC substituted 5- or 6-membered N-heterocycle, e.g. imidazolyl. The
CC compounds stimulate secretion of insulin, suppress secretion of
CC glucagon, suppress gastric motility and/or restore glucose compliance
CC to beta-cells. They are used to treat insulin-dependent or non-insulin-
CC dependent diabetes mellitus, insulin resistance and obesity. They have
CC a longer-lasting action than GLP-1 derivatives that lack the lipophilic
CC substituent. Some of them also exist as partially structured micelle-
CC like aggregates, so have improved solubility and stability. The present
CC sequence is a specifically preferred example of a GLP-1 analogue on
CC which the derivatives are based.
XX
XX Sequence 30 AA;
SQ

Query Match 98.7%; Score 153; DB 20; Length 30;
Best Local Similarity 96.7%; Pred. No. 5e-15; Indels 0; Gaps 0;
Matches 29; Conservative 1; Mismatches 0

Qy 1 HAEGTFTSDVSSYLEGQAQKEFLAWLVKGR 30
Db 1 haegtftsdvssylegqaakeflawlvkgr 30

RESULT 13
AAV27374
ID AAV27374 standard; peptide; 30 AA.
XX
XX AAV27374;
AC
XX
XX 26-NOV-1999 (first entry)
DT
XX
XX Glucagon-like peptide 1 (GLP-1) fragment (residues 7-36).
DE
XX
XX Glucagon; glucagon-like peptide 1; GLP-1; detergent; glycogenolytic;
KW gluconeogenesis; insulin secretion; diabetes mellitus; obesity;
KW spasmolytic; hypoglycemia.
XX
XX Synthetic.
XX
XX Key Location/Qualifiers
FH Modified-site 30
FT /note= "C-terminal amide"
FT
XX

PN WO9947160-A1.
 XX 23-SEP-1999.
 XX 08-MAR-1999; 99WO-DK00115.
 XX 13-MAR-1998; 98EP-0610006.
 PR 18-MAR-1998; 98US-0078422.
 XX (NOVO) NOVO-NORDISK AS.
 XX Kaarsholm NC;
 PI WPI; 1999-561858/47.
 XX Aqueous solution of glucagon or glucagon-like peptide-1 stabilized with
 PT charged detergent, for treating diabetes or obesity
 XX Examples; Page 5; 27pp; English.
 XX The invention provides an aqueous solution that comprises: (i) at least
 CC one glucagon or glucagon-like peptide-1 (GLP-1), or their analogs or
 CC derivatives (I) and (II) at least one detergent, other than dodecyl
 CC phosphocholine. The peptide (I) has at least two positive or negative
 CC charges or at least one charge of each sign. Glucagon is involved in
 CC glycogenolytic and gluconeogenesis processes (it also has a spasmolytic
 CC effect on smooth muscle) while GLP-1 promotes secretion of insulin and
 CC suppresses that of glucagon. The polar head of detergent interacts with the
 CC charged side chains in (I), while the hydrophobic tail interacts with the
 CC hydrophobic patch in (I). The solution is used to treat (non-)insulin-
 CC dependent diabetes mellitus and obesity. Glucagon is also used in
 CC radiology as a spasmolytic and for treating hypoglycemia. The detergent
 CC stabilizes the solutions, which are available for immediate use and can
 CC be stored for a long time at 4-25plusOC. The solutions may have pH
 CC between 4 and 9, allowing selection of conditions that suppress chemical
 CC degradation. The detergents are made from natural materials so have
 CC better biological compatibility than known detergents. The present
 CC sequence represents a GLP-1 peptide fragment.
 XX
 SQ Sequence 30 AA;
 Query Match 98.7%; Score 153; DB 20; Length 30;
 Best Local Similarity 96.7%; Pred. No. 5e-15;
 Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
 QY 1 HAEGFTSDVSSYLEGQAAKEFLAWLVKGR 30
 |||||||
 Db 1 haegtftsdvssylegqaakeflawlvkgr 30
 |||||||
 RESULT 14
 AAY39773
 ID AAY39773 standard; peptide; 30 AA.
 AC AAY39773;
 XX 26-NOV-1999 (first entry)
 DE Glucagon like peptide-1 (7-36).
 XX Glucagon-like peptide-1; GLP-1; appetite suppression; human; diabetes;
 KW spontaneous food intake; therapy.
 XX Homo sapiens.
 OS
 XX Key Location/Qualifiers
 FH Misc-difference 29
 FT /note= "amidated"
 FT
 XX WO9947161-A1.
 XX 23-SEP-1999.
 XX Aqueous solution of glucagon or glucagon-like peptide-1 stabilized with
 PT charged detergent, for treating diabetes or obesity
 XX Examples; Page 5; 27pp; English.
 XX The invention provides an aqueous solution that comprises: (i) at least
 CC one glucagon or glucagon-like peptide-1 (GLP-1), or their analogs or
 CC derivatives (I) and (II) at least one detergent, other than dodecyl
 CC phosphocholine. The peptide (I) has at least two positive or negative
 CC charges or at least one charge of each sign. Glucagon is involved in
 CC glycogenolytic and gluconeogenesis processes (it also has a spasmolytic
 CC effect on smooth muscle) while GLP-1 promotes secretion of insulin and
 CC suppresses that of glucagon. The polar head of detergent interacts with the
 CC charged side chains in (I), while the hydrophobic tail interacts with the
 CC hydrophobic patch in (I). The solution is used to treat (non-)insulin-
 CC dependent diabetes mellitus and obesity. Glucagon is also used in
 CC radiology as a spasmolytic and for treating hypoglycemia. The detergent
 CC stabilizes the solutions, which are available for immediate use and can
 CC be stored for a long time at 4-25plusOC. The solutions may have pH
 CC between 4 and 9, allowing selection of conditions that suppress chemical
 CC degradation. The detergents are made from natural materials so have
 CC better biological compatibility than known detergents. The present
 CC sequence represents a GLP-1 peptide fragment.
 XX
 SQ Sequence 30 AA;
 Query Match 98.7%; Score 153; DB 20; Length 30;
 Best Local Similarity 96.7%; Pred. No. 5e-15;
 Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
 QY 1 HAEGFTSDVSSYLEGQAAKEFLAWLVKGR 30
 |||||||
 Db 1 haegtftsdvssylegqaakeflawlvkgr 30
 |||||||
 RESULT 15
 AAY34198
 ID AAY34198 standard; peptide; 30 AA.
 AC AAY34198;
 XX 16-NOV-1999 (first entry)
 DE GLP-1 mutant peptide, GLP-1(7-36).
 XX GLP-1; Glucagon-like peptide-1; human; type I diabetes; type II diabetes;
 KW obesity; therapy; mutein.
 XX Homo sapiens.
 OS Synthetic.
 XX Key Location/Qualifiers
 FH Misc-difference 30
 FT /note= "optionally amidated"
 FT
 XX WO9943341-A1.
 XX 02-SEP-1999.
 XX 25-FEB-1999; 99WO-DK00084.
 XX 27-FEB-1998; 98DK-0000268.
 PR 27-FEB-1998; 98DK-0000272.
 XX (NOVO) NOVO-NORDISK AS.
 XX Knudsen LB, Huusfeldt PO, Nielsen PF, Kaarsholm NC, Olsen HB;
 PI Bjorn SE;
 PI WPI; 1999-540500/45.
 XX Composition containing stabilized derivatives of glucagon-like
 PT peptide-1 with high alpha-helix content, for treating diabetes and

GenCore version 4.5
Copyright (c) 1993 - 2000 CompuGen Ltd.

OM protein - protein search, using sw model

Run on: August 7, 2002, 09:17:51 ; Search time 24.96 Seconds
(without alignments)
207.927 Million cell upd

Title: US-09-635-679C-3

US-09-635-679C-3
Perfect score: 155
Sequence: 1 HAECTFTSDVSSYLEGQAAKEFLAWLVKGR 30

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 562222 seqs, 172994929 residues

Total number of hits satisfying chosen parameters: 562222

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 08

Maximum Match 100%
Listing first 45 summaries

Database :

```

1: sp_archaea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phase:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vterbrate:*
14: sp_unclassified:*
15: sp_virus:*
16: sp_bacteriap:*
17: sp_archaeap:*

```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Query No.	Score	Query		Length	DB	ID	Description
			Match	%				
1	1	153	98.7	180	6	Q95LG0	Q95LG0 canis fami	
2	2	141	91.0	206	13	Q91410	Q91410 gallus gall	
3	3	125	87.1	204	13	O12956	O12956 heliotherma s	
4	4	123	79.4	266	13	O42143	O42143 xenopus lae	
5	5	118	76.1	219	13	O42144	O42144 xenopus lae	
6	6	116	74.8	72	13	Q91409	Q91409 xenopus lae	
7	7	116	74.8	178	13	Q91971	Q91971 oncorhynchus	
8	8	111	71.6	178	13	Q91189	Q91189 oncorhynchus	
9	9	101	65.2	121	13	Q9DD66	Q9DD66 brachydanio	
10	10	100	64.5	160	13	Q9PURL	Q9PURL petromyzon	
11	11	93	60.0	62	13	Q9PRW9	Q9PRW9 scyllorhinu	
12	12	88	56.8	96	13	Q9DG43	Q9DG43 ambloplites	
13	13	81	52.3	120	13	Q9PURL	Q9PURL petromyzon	
14	14	61	39.4	169	4	Q96GK3	Q96GK3 homo sapien	
15	15	61	39.4	171	11	Q9D227	Q9D227 mus musculus	
16	16	59	38.1	130	11	Q9CVF1	Q9CVF1 mus musculus	

17	59	38.1	144	11	Q9D887
18	58.5	37.7	426	16	P71006
19	57	36.8	389	2	Q93IH2
20	56	36.1	172	13	Q9DE29
21	55.5	35.8	175	13	Q9OX24
22	54	34.5	138	13	Q9BSF4
23	54	34.3	171	13	Q9PUF8
24	54	34.8	173	13	Q9NSP5
25	52.5	33.9	175	13	Q9HTU3
26	52	33.5	89	13	Q9BSP6
27	51	32.9	171	10	Q9FGY5
28	51	32.9	352	5	Q9XK01
29	51	32.9	810	4	Q9NTW8
30	51	32.9	867	4	Q9UEX9
31	50	32.3	28	13	Q9PRN8
32	50	32.3	571	5	Q966F0
33	50	32.3	576	5	Q9BIJ4
34	50	32.3	589	5	Q9N5B9
35	50	32.3	786	5	Q9N5B7
36	50	32.3	835	5	Q9N5B8
37	49.5	31.9	378	5	Q250J2
38	49	31.6	575	9	Q38545
39	49	31.6	3600	10	Q9SA64
40	48.5	31.3	210	5	Q95XL4
41	48.5	31.3	221	16	Q91GW5
42	48.5	31.3	347	2	Q93PC9
43	48.5	31.3	372	10	Q9XFW9
44	48	31.0	331	5	Q18301
45	48	31.0	726	12	Q69068

ALIGNMENTS

RESULT	Q95LGO	Q95LGO	PRELIMINARY;	PRT;	180 AA.
ID	AC	Q95LGO;			
DT	DT	01-DEC-2001 (TrEMBLrel. 19, Created)			
DT	DT	01-DEC-2001 (TrEMBLrel. 19, Last sequence update)			
DT	DT	01-DEC-2001 (TrEMBLrel. 19, Last annotation update)			
DE	DE	PREPROGLUCAGON.			
OS	OS	Canis familiaris (Dog).			
OC	OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;			
OC	OC	Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.			
NC	NC	NCRI_TaxID=9615;			
RN	RN	[1]			
RP	RP	SEQUENCE FROM N.A.			
RT	RT	Irwin D.M.			
RL	RL	dog."; cloning of proglucagon from the stomach and pancreas of the			
RL	RL	Submitted (SEP-2000) to the EMBL/GenBank/DBJ databases.			
DR	DR	EMBL; AF308439; AAL09425.1; "			
SQ	SQ	SEQUENCE 180 AA; 21114 MW; 80F66941AFC324FD CRC64;			
		Query Match	98.78;	Score 153;	DB 6; Length 180;
		Best Local Similarity	96.78;	Pred. No. 3.9e-15;	
		Matches ; 29; Conservative	1;	Mismatches 0;	Indels 0;
QY	QY	1 HAEGFTTSDVSSYLEGQAQAEFLAWLVKGR 30			
		11111111111111111111111111111111			
Db	Db	98 HAEGFTTSDVSSYLEGQAQAEFLAWLVKGR 127			
		11111111111111111111111111111111			
RESULT	RESULT	2			
Q91410	Q91410	PRELIMINARY;			
ID	ID	Q91410			
AC	AC	Q91410;			
DT	DT	01-NOV-1996 (TrEMBLrel. 01, Created)			
DT	DT	01-NOV-1996 (TrEMBLrel. 01, Last sequence update)			
DT	DT	01-DEC-2001 (TrEMBLrel. 19, Last annotation update)			
DE	DE	PROGLUCAGON			

[1] SEQUENCE FROM N. A., ALTERNATIVE SPLICING, AND TISSUE SPECIFICITY.

RP TISSUE-INTESTINE, AND PANCREAS:

RC MEDLINE=97172477; PubMed=9020121;

RX Chen Y. E., Drucker D. J.;

RA "tissue-specific expression of unique mRNAs that encode proglucagon-

RT derived peptides or extend 4 in the lizard.";

RL J. Biol. Chem. 272:4108-4115(1997).

CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES

CC THE BLOOD SUGAR LEVEL (BY SIMILARITY).

CC -1- ALTERNATIVE PRODUCTS: 2 ISOFORMS; LPII (SHOWN HERE) AND LPI; ARE

CC PRODUCED BY ALTERNATIVE SPLICING.

CC -1- TISSUE SPECIFICITY: ISOFORM LPII IS EXPRESSED IN BOTH PANCREAS AND

CC INTESTINE. EXPRESSION OF ISOFORM LPI IS RESTRICTED TO THE

CC PANCREAS. NEITHER ISOFORM IS DETECTED IN SALIVARY GLAND.

CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS IN

CC RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.

CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.

CC EMBL; U77612; AAB51129.1; -.

DR EMBL; U77611; AAB51128.1; -.

DR HSSP; P01274; IGCN.

DR InterPro: IPR000532; Glucagon.

DR Pfam; PF00123; hormone2; 3.

DR PRINTS; PR00275; GLUCAGON.

DR SMART; SM00070; GLUCA; 3.

DR PROSITE; PS00260; GLUCAGON; 2.

DR Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;

KW Alternative splicing.

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Query_Match          : 79.4% ; Score 123; DB 13; Length 366;
Best_Local_Similarity 70.0% ; pred. No. 2.le-10;
Matches# 21; Conservative 7; Mismatches 2; Indels 0; Gaps 0;
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SEQ SEQUENCE 178 AA; 20034 MW; 5CF6980CF2A9D58E CRC64;
 Query Match 74.8%; Score 116; DB 13; Length 178;
 Best Local Similarity 66.7%; Pred. No. 1.5e-09;
 Matches 20; Conservative 7; Mismatches 3; Indels 0; Gaps 0;

1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30
 ||:|||||:||||:||||:||||:||||
 90 HADGTYTSDVSYILODQAAKDFVSWLKSGR 119

RESULT 8
 ID PRELIMINARY; PRT; 178 AA.
 Q91189 092168;
 Q91189; 092168;
 01-NOV-1996 (TREMELREL. 01, Created)
 01-NOV-1996 (TREMELREL. 01, Last sequence update)
 01-JUN-2001 (TREMELREL. 17, Last annotation update)
 GLUCAGON II PRECURSOR.
 Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Actinopterygii; Neopterygii; Teleostei; Euteleostei;
 Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
 NCBI_TaxID=8022;
 [1]

SEQUENCE FROM N.A., AND ALTERNATIVE SPLICING.
 TISSUE=DISTAL SMALL INTESTINE, AND PANCREAS;
 MEDLINE=95295739; PubMed=7776976;
 Irwin D.M., Wong J.;
 "trout and chicken proglucagon: alternative splicing generates mRNA
 transcripts encoding glucagon-like peptide 2.";
 Mol. Endocrinol. 9:267-277(1995).
 -!- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
 THE BLOOD SUGAR LEVEL (BY SIMILARITY).
 -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; INTESTINAL (SHOWN HERE) AND
 PANCREATIC; ARE PRODUCED BY ALTERNATIVE SPLICING.
 -!- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS IN
 RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 -!- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 EMBL; U19914; AAC59668.1; -
 EMBL; U19916; AAC60210.1; -
 EMBL; U19915; AAC60210.1; JOINED.
 EMBL; U19915; AAC60209.1; -
 HSSP; P01274; IGCN.
 InterPro; IPR000532; Glucagon.
 Pfam; PF00123; hormone2; 3.
 PRINTS; PR00275; GLUCAGON.
 SMART; SM000070; GLUCA; 3.
 PROSITE; PS00260; GLUCAGON; UNKNOWN 2.
 Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
 Alternative splicing; Multigene family.
 SIGNAL 1 ? POTENTIAL.
 PEPTIDE ? 49 GRPP (GLICENTINE RELATED POLYPEPTIDE).
 PEPTIDE 52 80 GLUCAGON.
 PEPTIDE 85 120 GLUCAGON-LIKE PEPTIDE 1.
 PEPTIDE 137 169 GLUCAGON-LIKE PEPTIDE 2.
 FT VARSPLIC 124 178 MISSING (IN PANCREATIC ISOFORM).
 SEQUENCE 178 AA; 19998 MW; E89D73866CD91C66 CRC64;

Query Match 71.6%; Score 111; DB 13; Length 178;
 Best Local Similarity 65.5%; Pred. No. 8.6e-09;
 Matches 19; Conservative 7; Mismatches 3; Indels 0; Gaps 0;

1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 29
 ||:|||||:||||:||||:||||:||||
 90 HADGTYTSDVSYILODQAAKDFVSWLKSG 118

RESULT 9
 ID PRELIMINARY; PRT; 178 AA.
 Q91189 092168;
 Q91189; 092168;
 01-NOV-1996 (TREMELREL. 01, Created)
 01-NOV-1996 (TREMELREL. 01, Last sequence update)
 01-JUN-2001 (TREMELREL. 17, Last annotation update)
 GLUCAGON II PRECURSOR.
 Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Actinopterygii; Neopterygii; Teleostei; Euteleostei;
 Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
 NCBI_TaxID=8022;
 [1]

DR EMBL; AF159707; AAF09186.1; -
 DR HSSP; P01275; 1BH0.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; Hormone2; 2.
 DR PRINTS; PR00275; GLUCAGON.
 DR SMART; SM00070; GLUCA; 2.
 DR PROSITE; PS00260; GLUCAGON; 2.
 KW Glucagon family; Hormone; Signal; Cleavage on pair of basic residues;
 FT Multigene family.
 FT SIGNAL 1 22 POTENTIAL.
 FT PEPTIDE 43 71 GLUCAGON.
 FT PEPTIDE 82 113 GLUCAGON-LIKE PEPTIDE 1.
 FT PEPTIDE 130 160 GLUCAGON-LIKE PEPTIDE 2.
 SQ SEQUENCE 160 AA; 18042 MW; 9A52C530D5A74072 CRC64;

Query Match 64.5%; Score 100; DB 13; Length 160;
 Best Local Similarity 56.7%; Pred. No. 3.5e-07;
 Matches 17; Conservative 6; Mismatches 7; Indels 0; Gaps 0;

Qy 1 HAEGFTSDVSSYLEGQAARFLAWLVKGR 30
 Db 43 HSEGTFTSDYSKYLENQARDFVRLMNAK 72

RESULT 11
 Q9PRW9 PRELIMINARY; PRT; 62 AA.
 ID Q9PRW9; Q9PRW8;
 AC Q9PRW9; Q9PRW8; 13, Created)
 DT 01-MAY-2000 (Tremblrel. 13, Last sequence update)
 DT 01-MAR-2001 (Tremblrel. 16, Last sequence update)
 DT 01-DEC-2001 (Tremblrel. 19, Last annotation update)
 DE GLUCAGON PRECURSOR [CONTAINS: GLUCAGON-29; GLUCAGON-33; GLUCAGON-LIKE PEPTIDE] (FRAGMENTS).
 OS Scyllorhinus canicula (Spotted dogfish) (Spotted catshark).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Chondrichthyes;
 OC Elasmobranchii; Galeomorphii; Galeoidea; Carcharhiniformes;
 OC Scyllorhinidae; Scyllorhinus.
 OX NCBI_TaxID=7830;
 RN [1]
 RP SEQUENCE.

TISSUE-PANCREAS;
 RX MEDLINE-94286411; PubMed-8015974;
 RA Conlon J.M., Hazon N., Thim L.;
 RT "Primary structures of peptides derived from proglucagon isolated from the pancreas of the elasmobranch fish, Scyllorhinus canicula.";
 RL Peptides 15:163-167(1994).
 CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES THE BLOOD SUGAR LEVEL.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.

DR HSSP; P01274; 1GCN.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 2.
 DR PRINTS; PR00275; GLUCAGON.
 DR SMART; SM00070; GLUCA; 2.
 DR PROSITE; PS00260; GLUCAGON; 2.
 KW Glucagon family; Hormone.
 FT PEPTIDE 1 29 GLUCAGON-29.
 FT PEPTIDE 1 33 GLUCAGON-33.
 FT NON_CONS 33 34
 FT PEPTIDE 34 62 GLUCAGON-LIKE PEPTIDE.
 SQ SEQUENCE 62 AA; 7270 MW; C5FF487C12C69CD1 CRC64;

Query Match 60.08; Score 93; DB 13; Length 62;
 Best Local Similarity 55.6%; Pred. No. 1.3e-06;
 Matches 15; Conservative 7; Mismatches 5; Indels 0; Gaps 0;

Qy 1 HAEGFTSDVSSYLEGQAARFLAWLV 27
 Db 1 HSEGTFTSDYSKYMDNRKDFVQLM 27

RESULT 112
 Q9DG43 PRELIMINARY; PRT; 96 AA.
 ID Q9DG43;
 AC Q9DG43;
 DT 01-MAR-2001 (Tremblrel. 16, Created)
 DT 01-MAY-2000 (Tremblrel. 13, Last sequence update)
 DT 01-DEC-2001 (Tremblrel. 19, Last annotation update)
 DE PROGLUCAGON (FRAGMENT).
 OS Ambloplites rupestris.
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
 OC Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidae;
 OC Centrarchidae; Ambloplites.
 OX NCBI_TaxID=109273;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Al-Mahrouki A.A., Irwin D.M., Youson J.H.;
 RL "Rock Bass Proglucagon.";
 RL Submitted (SEP-1999) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AF190499; AAG16778.1;
 DR HSSP; P01274; 1GCN;
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 2.
 DR PRINTS; PR00275; GLUCAGON.
 DR SMART; SM00070; GLUCA; 2.
 DR PROSITE; PS00260; GLUCAGON; UNKNOWN_1.
 FT NON_TER 1 1
 FT CHAIN 1 >29 GLUCAGON.
 FT CHAIN 39 >70 GLUCAGON-LIKE PEPTIDE 1.
 FT CHAIN 86 >96 GLUCAGON-LIKE PEPTIDE 2.
 FT NON_TER 96 96
 SQ SEQUENCE 96 AA; 11225 MW; 6435033EBDDC00CE CRC64;

Query Match 56.8%; Score 88; DB 13; Length 96;
 Best Local Similarity 43.3%; Pred. No. 1.2e-05;
 Matches 13; Conservative 11; Mismatches 6; Indels 0; Gaps 0;

Qy 1 HAEGFTSDVSSYLEGQAARFLAWLVKGR 30
 Db 1 HSEGTFTNDYNTYLEDRAQDFIRLNNK 30

RESULT 113
 Q9PUGO PRELIMINARY; PRT; 120 AA.
 ID Q9PUGO;
 AC Q9PUGO;
 DT 01-MAY-2000 (Tremblrel. 13, Created)
 DT 01-MAY-2000 (Tremblrel. 13, Last sequence update)
 DT 01-DEC-2001 (Tremblrel. 19, Last annotation update)
 DE GLUCAGON II PRECURSOR [CONTAINS: GLUCAGON; GLUCAGON-LIKE PEPTIDE (GLP)].
 OS Petromyzon marinus (Sea lamprey).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Hyperoartia;
 OC Petromyzontiformes; Petromyzontidae; Petromyzon.
 OX NCBI_TaxID=7757;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE-INTESTINE;
 RX MEDLINE-20022986; PubMed-10555286;
 RA Irwin D.M., Huner O., Youson J.H.;
 RT "Lamprey proglucagon and the origin of glucagon-like peptides.";
 RL Mol. Biol. Evol. 16:1548-1557(1999).
 CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES THE BLOOD SUGAR LEVEL.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.

DR EMBL; AF159708; AAF09187.1;
 DR HSSP; P01275; 1BH0.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 2.
 DR PRINTS; PR00275; GLUCAGON.
 DR SMART; SM00070; GLUCA; 2.
 DR PROSITE; PS00260; GLUCAGON; 2.

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RESULT 15
Q9D2ZT
ID Q9D2Z7 PRELIMINARY; PRT; 171 AA.
AC Q9D2Z7;
DT 01-JUN-2001 (TREMBlrel. 17, Created)
DT 01-JUN-2001 (TREMBlrel. 17, Last sequence update)
DT 01-JUN-2001 (TREMBlrel. 17, Last annotation update)
DE VASOACTIVE INTESTINAL POLYPEPTIDE.
GN VIP.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J; TISSUE=CECUM;
RX MEDLINE=21085660; PubMed=11217851;
RA Kawai J., Shinagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
RA Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,
RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
RA Radota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
RA Fletschmann W., Gaasterland T., Gissi C., King B., Kochiwa H.,
RA Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
RA Schirml L.M., Stauffli F., Suzuki R., Tomita M., Wagner L., Washio T.,
RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,

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OM protein - protein search, using sw model

Run on: August 7, 2002, 09:14:51 ; Search time 12.97 seconds
(without alignments)
56.497 Million cell updates/sec

Title: US-09-635-679c-3
Perfect score: 155

Sequence: 1 HAEGFTSDVSSYLEGQAKEFLAWLVKGR 30

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 231628 seqs, 24425594 residues

Total number of hits satisfying chosen parameters: 231628

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

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- 2: /cgn2_6/ptodata/2/1aa/5B_COMB.pep.*
- 3: /cgn2_6/ptodata/2/1aa/6A_COMB.pep.*
- 4: /cgn2_6/ptodata/2/1aa/6B_COMB.pep.*
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- 6: /cgn2_6/ptodata/2/1aa/backfiles1.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
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2	153	98.7	30	1	US-08-095-162-1
3	153	98.7	30	1	US-08-470-220A-1
4	153	98.7	30	2	US-08-927-227-1
5	153	98.7	30	3	US-08-967-374-1
6	153	98.7	30	4	US-08-348-136-1
7	153	98.7	30	4	US-08-961-405A-5
8	153	98.7	30	4	US-08-915-918A-5
9	153	98.7	30	4	US-08-302-596-4
10	153	98.7	30	4	US-08-472-349-3
11	153	98.7	30	4	US-08-333-415-4
12	153	98.7	30	4	US-08-585-181A-4
13	153	98.7	30	5	PCT-US95-15800-27
14	153	98.7	31	1	US-09-025-951-1
15	153	98.7	31	1	US-08-095-162-3
16	153	98.7	31	1	US-08-295-913A-1
17	153	98.7	31	1	US-08-470-220A-3
18	153	98.7	31	2	US-08-807-263-3
19	153	98.7	31	3	US-08-967-374-3
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21	153	98.7	31	4	US-08-915-918A-1
22	153	98.7	31	4	US-09-302-596-3
23	153	98.7	31	4	US-08-472-349-2
24	153	98.7	31	4	US-09-623-618B-2
25	153	98.7	31	4	US-09-623-618B-17
26	153	98.7	31	4	US-09-623-618B-27
27	153	98.7	31	4	US-09-623-618B-28

28 153 98.7 31 4 US-09-333-415-3
29 153 98.7 31 5 PCT-US95-15800-28
30 153 98.7 36 1 US-08-095-162-15
31 153 98.7 36 1 US-08-470-220A-15
32 153 98.7 36 2 US-08-808-825-9
33 153 98.7 36 2 US-08-899-324-1
34 153 98.7 36 3 US-08-967-374-15
35 153 98.7 36 4 US-08-320-892B-1
36 153 98.7 36 4 US-09-302-596-2
37 153 98.7 36 4 US-08-472-349-6
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43 153 98.7 37 3 US-08-967-374-19
44 153 98.7 37 4 US-09-302-596-1
45 153 98.7 37 4 US-08-472-349-1

ALIGNMENTS

RESULT 1
US-08-066-480-6
; Sequence 6, Application US/08066480
; Patent No. 5424286
; GENERAL INFORMATION:
; APPLICANT: Eng. John
; TITLE OF INVENTION: Pharmaceutical Compositions And Use of
; TITLE OF INVENTION: Exendin-3 and Exendin-4 for Treatment of Diabetes Mellitus
; NUMBER OF SEQUENCES: 7
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Allegretti & Witcoff, Ltd.
; STREET: 10 S. Wacker Drive
; CITY: Chicago
; STATE: Illinois
; COUNTRY: USA
; ZIP: 60606
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/066,480
; FILING DATE: 24-MAR-1993
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: McDonnell, John J
; REGISTRATION NUMBER: 26,949
; REFERENCE/DOCKET NUMBER: 93,084
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 312-715-1000
; TELEFAX: 312-715-1234
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 30 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FEATURE:
; NAME/KEY: Peptide
; LOCATION: 1-30
; OTHER INFORMATION: /label= GLP-1-7-36
; OTHER INFORMATION: /note= "GLP-1(7-36) fragment"
US-08-066-480-6

Query Match 98.7% Score 153; DB 1; Length 30;
Best Local Similarity 96.7%; Pred. NO. 1.le-15;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

us-09-635-679c-3.ra1

Wed Aug 7 10:40:09 2002

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Db 1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30

RESULT 2
US-08-095-162-1
; Sequence 1, Application US/08095162
; Patent No. 5512459
; GENERAL INFORMATION:
; APPLICANT: Wagner, Fred W.
; APPLICANT: Stout, Jay
; APPLICANT: Henriksen, Dennis
; APPLICANT: Partridge, Bruce
; APPLICANT: Manning, Shane
; TITLE OF INVENTION: Enzymatic Method for Modification of
; TITLE OF INVENTION: Recombinant Polypeptides
; NUMBER OF SEQUENCES: 26
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Merchant & Gould
; STREET: 3100 No. 5512459west Center
; CITY: Minneapolis
; STATE: MN
; COUNTRY: USA
; ZIP: 55402
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/470,220A
; FILING DATE: 06-JUN-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/095,162
; FILING DATE: 20-JUL-1993
; ATTORNEY/AGENT INFORMATION:
; NAME: Nelson, Albin J.
; REGISTRATION NUMBER: 28,659
; REFERENCE/DOCKET NUMBER: 8648.32-US01
; TELEPHONE: 612-332-5300
; TELEFAX: 612-332-9081
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 30 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; IMMEDIATE SOURCE:
; CLONE: GLP1 7-36-NH2 (Glucagon-like Peptide)
; US-08-470-220A-1

Query Match 98.7%; Score 153; DB 1; Length 30;
Best Local Similarity 96.7%; Pred. No. 1.le-15;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

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Db 1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30

RESULT 4
US-08-927-227-1
; Sequence 1, Application US/08927227A
; Patent No. 5977071
; GENERAL INFORMATION:
; APPLICANT: Galloway, James A.
; APPLICANT: Hoffman, James A.
; TITLE OF INVENTION: GLUCAGON-LIKE INSULINOTROPIC PEPTIDE ANALOGS,
; TITLE OF INVENTION: COMPOSITIONS AND METHODS
; FILE REFERENCE: X-9332B
; CURRENT APPLICATION NUMBER: US/08/927,227A
; CURRENT FILING DATE: 1997-09-10
; NUMBER OF SEQ ID NOS: 1
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 1
; LENGTH: 30
; TYPE: PRT
; ORGANISM: Homo sapiens
; FEATURE:
; OTHER INFORMATION: The arginine residue at position 30 is modified so
; OTHER INFORMATION: as to replace the terminal carboxyl group with an
; OTHER INFORMATION: amine.
; US-08-927-227-1

Query Match 98.7%; Score 153; DB 1; Length 30;
Best Local Similarity 96.7%; Pred. No. 1.le-15;
Matches 29; Conservative 0; Indels 0; Gaps 0;

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RESULT 3
US-08-470-220A-1
; Sequence 1, Application US/08470220A
; Patent No. 5707826
; GENERAL INFORMATION:
; APPLICANT: Wagner, Fred W.
; APPLICANT: Stout, Jay
; APPLICANT: Henriksen, Dennis
; APPLICANT: Partridge, Bruce
; APPLICANT: Manning, Shane
; TITLE OF INVENTION: Enzymatic Method for Modification of
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US-08-961-405A-5
Query Match          98.7%; Score 153; DB 4; Length 30;
Best Local Similarity 96.7%; Pred. No. 1.1e-15;
Matches 29; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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RESULT 8
US-08-915-918A-5
; Sequence 5, Application US/08915918A
; Patent No. 6277819
; GENERAL INFORMATION:
; APPLICANT: Eficend, Suad
; TITLE OF INVENTION: USE OF GLP-1 OR ANALOGS IN TREATMENT OF
; TITLE OF INVENTION: MYOCARDIAL INFARCTION
; NUMBER OF SEQUENCES: 6
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: BRINKS, HOPER, GILSON & LIONE
; STREET: NBC Tower - Suite 3600, 455 N. Cityfront
; STREET: Plaza Drive
; CITY: Chicago
; STATE: Illinois
; COUNTRY: USA
; ZIP: 60611-5599
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/915,918A
; FILING DATE: 21-AUG-1997
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Martin, Alice O.
; REGISTRATION NUMBER: 35,601
; REFERENCE/DOCKET NUMBER: 8792/28
; TELEPHONE: 312-321-4200
; TELEFAX: 312-321-4299
; INFORMATION FOR SEQ ID NO: 5:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 30 amino acids
; TYPE: amino acid
; STRANDEDNESS:
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; US-08-915-918A-5

Query Match          98.7%; Score 153; DB 4; Length 30;
Best Local Similarity 96.7%; Pred. No. 1.1e-15;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

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RESULT 9
US-09-302-596-4
; Sequence 4, Application US/09302596
; Patent No. 6284725
; GENERAL INFORMATION:
; APPLICANT: Coolidge, Thomas R.
; APPLICANT: Ehlers, Mario R.W.
; TITLE OF INVENTION: Metabolic Intervention with GLP-1 to Improve the Function of
; and Processed Tissue

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ORIGINAL SOURCE:
ORGANISM: N/A
STRAIN: N/A
INDIVIDUAL ISOLATE: N/A
HAPLOTYPE: N/A
CELL LINE: N/A
IMMEDIATE SOURCE:
LIBRARY: N/A
CLONE: N/A
POSITION IN GENOME:
CHROMOSOME/SEGMENT: N/A
MAP POSITION: N/A
UNITS: N/A
US-08-472-349-3

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Best Local Similarity 96.7%; Pred. No. 1.1e-15;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

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RESULT 11
US-09-333-415-4
Sequence 4, Application US/093333415
Patent No. 6344180
GENERAL INFORMATION:
APPLICANT: Holst, Jens J.
TITLE OF INVENTION: GLP-1 as a Diagnostic Test to Determine Beta-Cell
TITLE OF INVENTION: Function and the Presence of the Condition of IGT and
TITLE OF INVENTION: Type-II Diabetes
FILE REFERENCE: P03987US0
CURRENT APPLICATION NUMBER: US/09/333.415
CURRENT FILING DATE: 1999-06-15
NUMBER OF SEQ ID NOS: 13
SOFTWARE: PatentIn ver. 2.0
SEQ ID NO 4
LENGTH: 30
TYPE: PRT
ORGANISM: Homo sapiens
US-09-333-415-4

Query Match 98.7%; Score 153; DB 4; Length 30;
Best Local Similarity 96.7%; Pred. No. 1.1e-15;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

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RESULT 12
US-09-585-181A-4
Sequence 4, Application US/09585181A
Patent No. 6358924
GENERAL INFORMATION:
APPLICANT: Hoffmann, James
TITLE OF INVENTION: GLP-1 FORMULATIONS
FILE REFERENCE: X-11368
CURRENT APPLICATION NUMBER: US/09/585.181A
CURRENT FILING DATE: 2001-08-22
PRIOR APPLICATION NUMBER: US 60/067,600
PRIOR FILING DATE: 1997-12-05
NUMBER OF SEQ ID NOS: 5
SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
LENGTH: 30
TYPE: PRT

ORGANISM: Homo sapiens
FEATURE:
NAME/KEY: MOD_RES
LOCATION: (30)..(30)
OTHER INFORMATION: AMIDATION
US-09-585-181A-4

Query Match 98.7%; Score 153; DB 4; Length 30;
Best Local Similarity 96.7%; Pred. No. 1.1e-15;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

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RESULT 13
PCT-US95-15800-27
Sequence 27, Application PC/TUS9515800
GENERAL INFORMATION:
APPLICANT: Blonbraska, Inc.
TITLE OF INVENTION: PRODUCTION OF PEPTIDES USING
TITLE OF INVENTION: RECOMBINANT FUSION PROTEIN CONSTRUCTS
NUMBER OF SEQUENCES: 33
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 Norwest Center, 90 S. 7th Street
CITY: Minneapolis
STATE: MN
COUNTRY: U.S.A.
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastSeq Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/15800
FILING DATE: 07-DEC-1995
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/350,530
FILING DATE: 07-DEC-1994
ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648.45USWO
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612/332-5300
TELEFAX: 612/332-9081
TELEX:
INFORMATION FOR SEQ ID NO: 27:
SEQUENCE CHARACTERISTICS:
LENGTH: 30 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: internal
ORIGINAL SOURCE:
PCT-US95-15800-27

Query Match 98.7%; Score 153; DB 5; Length 30;
Best Local Similarity 96.7%; Pred. No. 1.1e-15;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

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GenCore version 4.5
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OM protein - protein search, using sw model

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100.089 Million cell updates/sec

Title: US-09-635-679c-3

Perfect score: 155

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Maximum Match 100%

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
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2	153	98.7	30	3	US-07-899-073-3
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4	153	98.7	30	7	US-08-302-855-1
5	153	98.7	30	7	US-08-350-528-53
6	153	98.7	30	7	US-08-350-530A-27
7	153	98.7	30	7	US-08-356-231-3

8 153 98.7 30 9 US-08-520-485-1 Sequence 1, Appli
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10 153 98.7 30 13 US-08-908-867A-3 Sequence 3, Appli
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13 153 98.7 30 16 US-09-206-601-1 Sequence 1, Appli
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20 153 98.7 30 17 US-09-341-590-118 Sequence 4, Appli
21 153 98.7 30 18 US-09-400-802A-4 Sequence 118, App
22 153 98.7 30 19 US-09-505-991-1 Sequence 1, Appli
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25 153 98.7 30 19 US-09-585-186-5 Sequence 5, Appli
26 153 98.7 30 20 US-09-614-847-114 Sequence 114, App
27 153 98.7 30 20 US-09-656-121-11 Sequence 11, Appli
28 153 98.7 30 20 US-09-657-276-344 Sequence 344, App
29 153 98.7 30 20 US-09-657-276-355 Sequence 355, App
30 153 98.7 30 21 US-09-719-410-4 Sequence 4, Appli
31 153 98.7 30 21 US-09-762-538-1 Sequence 1, Appli
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34 153 98.7 30 22 US-09-834-229A-5 Sequence 5, Appli
35 153 98.7 30 22 US-09-851-738-4 Sequence 4, Appli
36 153 98.7 30 22 US-09-857-636-1 Sequence 1, Appli
37 153 98.7 30 22 US-09-859-804-4 Sequence 4, Appli
38 153 98.7 30 23 US-09-953-021-4 Sequence 1, Appli
39 153 98.7 30 23 US-09-975-905-1 Sequence 1, Appli
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ALIGNMENTS

RESULT 1
PCT-US98-25515-4
; Sequence 4, Application PC/TUS9825515
; GENERAL INFORMATION:
; APPLICANT: Hoffmann, James A.
; TITLE OF INVENTION: GLP-1 FORMULATIONS
; FILE REFERENCE: X-11368
; CURRENT APPLICATION NUMBER: PCT/US98/25515
; CURRENT FILING DATE: 1998-12-02
; EARLIER APPLICATION NUMBER: US60/067,600
; EARLIER FILING DATE: 1997-12-05
; NUMBER OF SEQ ID NOS: 5
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 4
; LENGTH: 30
; TYPE: PRT
; ORGANISM: Homo sapiens
; FEATURE:
; OTHER INFORMATION: Arg at position 30 is C-terminally amidated.
PCT-US98-25515-4

Query Match 98.7%; Score 153; DB 1; Length 30;
Best Local Similarity 96.7%; Pred. No. 3.7e-15;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAECTFTSDVSSYLEGQAKEFLAWLVKGR 30

Db 1 HAECTFTSDVSSYLEGQAKEFLAWLVKGR 30

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1  RESULT      2
2  US-07-899-073-3
3  ; Sequence 3, Application US/07899073
4  ; GENERAL INFORMATION:
5  ; APPLICANT: Andrews, Glenn C.
6  ; APPLICANT: Daumy, Gaston O.
7  ; APPLICANT: Francoeur, Michael L.
8  ; APPLICANT: Larson, Eric R.
9  ; TITLE OF INVENTION: GLUCAGON-LIKE PEPTIDE AND INSULINOTROPIN
10 ; DERIVATIVES
11 ; NUMBER OF SEQUENCES: 6
12 ; CORRESPONDENCE ADDRESS:
13 ; ADDRESSEE: Gregg C. Benson, Pfizer Inc
14 ; STREET: Eastern Point Road
15 ; CITY: Groton
16 ; STATE: CT
17 ; COUNTRY: USA
18 ; ZIP: 06340
19 ; COMPUTER READABLE FORM:
20 ; MEDIUM TYPE: Floppy disk
21 ; COMPUTER: IBM PC compatible
22 ; OPERATING SYSTEM: PC-DOS/MS-DOS
23 ; SOFTWARE: PatentIn Release #1.0, Version #1.25
24 ; CURRENT APPLICATION DATA:
25 ; APPLICATION NUMBER: US/07/899,073
26 ; FILING DATE: 19920615
27 ; CLASSIFICATION: 514
28 ; ATTORNEY/AGENT INFORMATION:
29 ; NAME: Benson, Gregg C.
30 ; REGISTRATION NUMBER: 30,997
31 ; REFERENCE/DOCKET NUMBER: PC8156GCB
32 ; TELECOMMUNICATION INFORMATION:
33 ; TELEPHONE: (203) 441-4901
34 ; TELEFAX: (203) 441-5221
35 ; INFORMATION FOR SEQ ID NO: 3:
36 ; SEQUENCE CHARACTERISTICS:
37 ; LENGTH: 30 amino acids
38 ; TYPE: AMINO ACID
39 ; TOPOLOGY: linear
40 ; MOLECULE TYPE: peptide
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Query Match	98.7%	Score 153;	DB 3;	Length 30;
Best Local Similarity	96.7%;	Pred.No. 3.7e-15;		
Matches 29;	Conservative 1;	Mismatches 0;	Indels	
QY	1	HAEGTSTSDVSSYLEGGAKEFLAMLVKGR	30	
Dh	1	HAEGTSTSDVSSYLEGGAKEFLAMLVKGR	30	

```

RESULT      3
US-08-044-133-3
; Sequence 3, Application US/08044133
;
; GENERAL INFORMATION:
;
; APPLICANT: Kim, Yesook
; APPLICANT: Lambert, William J.
; APPLICANT: Qi, Hong
; APPLICANT: Gelfand, Robert A.
; APPLICANT: Geoghegan, Kieran F.
; APPLICANT: Danley, Dennis E.
;
; TITLE OF INVENTION: Prolonged Delivery of Peptides
;
; NUMBER OF SEQUENCES: 7
;
; CORRESPONDENCE ADDRESS:
;
; ADDRESSEE: Pfizer Inc
; STREET: 235 East 42nd Street, 20th Floor
; CITY: New York
; STATE: New York
; COUNTRY: U.S.A.
; ZIP: 10017-5755
;
; COMPUTER READABLE FORM:

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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent in Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/044,133
FILING DATE: 07-APR-1993
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: SheyKa, Robert F.
REGISTRATION NUMBER: 31,304
REFERENCE/DOC#ET NUMBER: PC8391
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212)573-1189
TELEFAX: (212)573-1939
TELEX: N/A
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 30 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: N-terminal
ORIGINAL SOURCE:
ORGANISM: N/A
STRAIN: N/A
INDIVIDUAL ISOLATE: N/A
HAPLOTYPE: N/A
CELL LINE: N/A
IMMEDIATE SOURCE:
LIBRARY: N/A
CLONE: N/A
POSITION IN GENOME:
CHROMOSOME/SEGMENT: N/A
MAP POSITION: N/A
UNITS: N/A
5-08-044-133-3

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Query Match          98.7%; Score 153; DB 4; Length 30;
Best Local Similarity 96.7%; Pred. No. 3.7e-15;
Matches 29; Conservative 1; Mismatches 0; Indels
0
Query 1 1 HAEGTFTSDVSYLLEGOAAKEFLAWLVKGR 30
          1 HAEGTFTSDVSYLLEGOAAKEFLAWLVKGR 30

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RESULT ...4
US-08-302-855-1
; Sequence: 1, Application US/08302855
; GENERAL INFORMATION:
; APPLICANT: Kirk, Ole
; APPLICANT: Pridal, Lone
; TITLE OF INVENTION: NOVEL MEDICAMENT
; NUMBER OF SEQUENCES: 1
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Novo Nordisk of North America, Inc.
; STREET: 405, Lexington Avenue, 64th Floor
; CITY: New York
; STATE: New York
; COUNTRY: United States of America
; ZIP: 10174-6401
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC Compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/302.855

```

;; FILING DATE: 16-SEP-1994
;; CLASSIFICATION: 530
;; PRIOR APPLICATION DATA:
;; APPLICATION NUMBER: DK PCT/DK93/00098
;; FILING DATE: 18-MAR-1993
;; ATTORNEY/AGENT INFORMATION:
;; NAME: Lambiris, Elias J.
;; REGISTRATION NUMBER: 33,728
;; REFERENCE/DOCKET NUMBER: 3746.204-US
;; TELECOMMUNICATION INFORMATION:
;; TELEPHONE: 212-867-0123
;; TELEFAX: 212-878-9655
;; INFORMATION FOR SEQ ID NO: 1:
;; SEQUENCE CHARACTERISTICS:
;; LENGTH: 30 amino acids
;; TYPE: amino acid
;; STRANDEDNESS: single
;; TOPOLOGY: linear
;; MOLECULE TYPE: peptide
;; US-08-302-855-1

Query Match 98.7%; Score 153; DB 7; Length 30;
Best Local Similarity 96.7%; Pred. No. 3.7e-15;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30
Db 1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30

RESULT 5
US-08-350-528-53
; Sequence 53, Application US/08350528
; GENERAL INFORMATION:
; APPLICANT: Stout, Jay
; APPLICANT: Partridge, Bruce
; APPLICANT: Henriksen, Dennis
; APPLICANT: Holmquist, Barton
; APPLICANT: Wagner, Fred
; TITLE OF INVENTION: PRODUCTION OF C-TERMINAL AMIDATED PEPTIDES FROM RECOMB
; NUMBER OF SEQUENCES: 63
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Merchant & Gould
; STREET: 3100 Norwest
; CITY: Mpls
; STATE: MN
; COUNTRY: USA
; ZIP: 55402
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: DOS
; SOFTWARE: FastSeq Version 1.5
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/350.528
; FILING DATE: 07-DEC-1994
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER:
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Carter, Charles G
; REGISTRATION NUMBER: 35,093
; REFERENCE/DOCKET NUMBER: 8648.43US01
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 332-5300
; TELEFAX:
; TELEX:
; INFORMATION FOR SEQ ID NO: 53:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 30 amino acids
; TYPE: amino acid

;; STRANDEDNESS: single
;; TOPOLOGY: linear
;; MOLECULE TYPE: peptide
;; HYPOTHETICAL: NO
;; ANTI-SENSE: NO
;; FRAGMENT TYPE: Internal
;; ORIGINAL SOURCE:
;; US-08-350-528-53

Query Match 98.7%; Score 153; DB 7; Length 30;
Best Local Similarity 96.7%; Pred. No. 3.7e-15;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30
Db 1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30

RESULT 6
US-08-350-530A-27
; Sequence 27, Application US/08350530A
; GENERAL INFORMATION:
; APPLICANT: Partridge, Bruce
; APPLICANT: Stout, Jay
; APPLICANT: Henriksen, Dennis
; APPLICANT: Manning, Shane
; APPLICANT: De La Motta, Rebecca
; APPLICANT: Holmquist, Barton
; APPLICANT: Wagner, Fred
; TITLE OF INVENTION: PRODUCTION OF PEPTIDE USING RECOMBINANT
; NUMBER OF SEQUENCES: 33
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Merchant & Gould
; STREET: 3100 Norwest Center, 90 S. 7th Street
; CITY: Minneapolis
; STATE: MN
; COUNTRY: U.S.A.
; ZIP: 55402
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: DOS
; SOFTWARE: FastSeq Version 1.5
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/350.530A
; FILING DATE: 07-DEC-1994
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER:
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Carter, Charles G
; REGISTRATION NUMBER: 35,093
; REFERENCE/DOCKET NUMBER: 8648.45US01
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 612/332-5300
; TELEFAX: 612/332-9081
; TELEX:
; INFORMATION FOR SEQ ID NO: 27:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 30 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; HYPOTHETICAL: NO
; ANTI-SENSE: NO
; FRAGMENT TYPE: Internal
; ORIGINAL SOURCE:
; US-08-350-530A-27

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Query Match          98.7%; Score 153; DB 7; Length 30;
Best Local Similarity 96.7%; Pred.No. 3,7e-15;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30
  |||||
1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30
  |||||

RESULT 7
US-08-356-231-3
; Sequence 3, Application US/08356231
; GENERAL INFORMATION:
; APPLICANT: Andrews, Glenn C.
; APPLICANT: Daumy, Gaston O.
; APPLICANT: Francoeur, Michael L.
; APPLICANT: Larson, Eric R.
; APPLICANT: Pfizer Inc. (Non-US)
; TITLE OF INVENTION: GLUCAGON-LIKE PEPTIDE AND INSULINOTROPIN
; TITLE OF INVENTION: DERIVATIVES
; NUMBER OF SEQUENCES: 6
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Gregg C. Benson, Pfizer Inc
; STREET: Eastern Point Road
; CITY: Groton
; STATE: CT
; COUNTRY: USA
; ZIP: 06340
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA: 08/25/01

```

CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/899,073
FILE NO. 2300 15 JUN 1992

ATTORNEY/AGENT INFORMATION:
NAME: Benson, Gregg C.
REGISTRATION NUMBER: 30,997
REFERENCE/DOCKET NUMBER: PC8156AGCB
TELECOMMUNICATION INFORMATION:
TELEPHONE: (203) 441-4901

TELEPHONE: (203) 441-4901
TELEFAX: (203) 441-5221
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 30 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
S-08-356-231-3

Query Match 98.7%; Score 153; DB 7; Length 30;
Best Local Similarity 96.7%; Pred. No. 3.7e-15;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Caps 0;

y 1 HAEGFTSDVSSYLEGQAAKEFLAWLVKGR 30
|||||
b 1 HAEGFTSDVSSYLEGQAAKEFLAWLVKGR 30
|||||

RESULT 8
S-08-520-485-1
Sequence 1, Application US/08520485
GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
APPLICANT: Stout, Jay

RESULT 8
S-08-520-485-1
Sequence 1, Application US/08520485
GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
APPLICANT: Stout, Jay
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/908,867
FILING DATE: 08-AUGUST-1997

CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/694,954
FILING DATE: 08-AUGUST-1996
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: DUFF, BRADFORD J.
REGISTRATION NUMBER: 32,219
REFERENCE/DOCKET NUMBER: 227/166
TELECOMMUNICATION INFORMATION:
TELEPHONE: 619/552-2200
TELEFAX: 213/955-0440
TELEX: 67-3510
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 30 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
FEATURE:
LOCATION: 30
OTHER INFORMATION: amidated Arg (Arginineamide)
US-08-908-867-3

Query Match 98.7%; Score 153; DB 13; Length 30;
Best Local Similarity 96.7%; Pred. No. 3.7e-15;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAQAEFLAWLVKGR 30
Db 1 HAEGTFTSDVSSYLEGQAQAEFLAWLVKGR 30

RESULT 10
US-08-908-867A-3
Sequence 3, Application US/08908867A
GENERAL INFORMATION:
APPLICANT: YOUNG, Andrew A.
APPLICANT: GEDULIN, Bronislava
APPLICANT: BEELEY, Nigel Robert Arnold
APPLICANT: PRICKETT, Kathryn S.
TITLE OF INVENTION: METHODS FOR REGULATING
TITLE OF INVENTION: GASTROINTESTINAL MOTILITY
NUMBER OF SEQUENCES: 37
CORRESPONDENCE ADDRESS:
ADDRESSEE: LYON & LYON
STREET: 633 WEST FIFTH STREET
CITY: LOS ANGELES
STATE: CALIFORNIA
COUNTRY: USA
ZIP: 90017
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/908,867A
FILING DATE: 08-AUGUST-1997
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/694,954
FILING DATE: 08-AUGUST-1996
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: DUFF, BRADFORD J.
REGISTRATION NUMBER: 32,219
REFERENCE/DOCKET NUMBER: 227/166
TELECOMMUNICATION INFORMATION:
TELEPHONE: 619/552-2200
TELEFAX: 213/955-0440

TELEX: 67-3510
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 30 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
FEATURE:
LOCATION: 30
OTHER INFORMATION: amidated Arg (Arginineamide)
US-08-908-867A-3

Query Match 98.7%; Score 153; DB 13; Length 30;
Best Local Similarity 96.7%; Pred. No. 3.7e-15;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAQAEFLAWLVKGR 30
Db 1 HAEGTFTSDVSSYLEGQAQAEFLAWLVKGR 30

RESULT 11
US-08-908-867-3
Sequence 3, Application US/08908867B
GENERAL INFORMATION:
APPLICANT: YOUNG, Andrew A.
APPLICANT: GEDULIN, Bronislava
APPLICANT: BEELEY, Nigel Robert Arnold
APPLICANT: PRICKETT, Kathryn S.
TITLE OF INVENTION: METHODS FOR REGULATING
TITLE OF INVENTION: GASTROINTESTINAL MOTILITY
NUMBER OF SEQUENCES: 39
CORRESPONDENCE ADDRESS:
ADDRESSEE: LYON & LYON
STREET: 633 WEST FIFTH STREET
CITY: LOS ANGELES
STATE: CALIFORNIA
COUNTRY: USA
ZIP: 90017
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/908,867B
FILING DATE: 08-Aug-1997
CLASSIFICATION: Pending
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/694,954
FILING DATE: 08-AUGUST-1996
ATTORNEY/AGENT INFORMATION:
NAME: BERKMAN, CHARLES S.
REGISTRATION NUMBER: 38,077
REFERENCE/DOCKET NUMBER: 227/166
TELECOMMUNICATION INFORMATION:
TELEPHONE: 619/552-2200
TELEFAX: 213/955-0440
TELEX: 67-3510
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 30 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
FEATURE:
LOCATION: 30
OTHER INFORMATION: amidated Arg (Arginineamide)
SEQUENCE DESCRIPTION: SEQ ID NO: 3:
US-08-908-867-3

```

RESULT 13.
US-09-206-601-1
; Sequence 1, Application US/09206601A
; GENERAL INFORMATION:
; APPLICANT: DONG, ZHENG XIN
; TITLE OF INVENTION: ANALOGUES OF GLP-1
; FILE REFERENCE: 00537/186001
; CURRENT APPLICATION NUMBER: US/09/206,601A
; CURRENT FILING DATE: 1998-12-07
; NUMBER OF SEQ ID NOS: 363
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 1
; LENGTH: 30
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-206-601-1

Query Match          98.7%; Score 153; DB 16; Length 30;
Best local Similarity 96.7%; Pred. No. 3.7e-15;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTTSDVSSYLEGQAQKEFLAWLVKGR 30
   |||||
DB 1 HAEGTTSDVSSYLEGQAQKEFLAWLVKGR 30

RESULT 14.
US-09-206-601-18
; Sequence 18, Application US/09206601A
; GENERAL INFORMATION:
; APPLICANT: DONG, ZHENG XIN
; TITLE OF INVENTION: ANALOGUES OF GLP-1
; FILE REFERENCE: 00537/186001
; CURRENT APPLICATION NUMBER: US/09/206,601A
; CURRENT FILING DATE: 1998-12-07
; NUMBER OF SEQ ID NOS: 363
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 18
; LENGTH: 30
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Mutagen
; FEATURE:
; OTHER INFORMATION: this sequence has an amidated c-terminus
US-09-206-601-18

Query Match          98.7%; Score 153; DB 16; Length 30;
Best local Similarity 96.7%; Pred. No. 3.7e-15;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTTSDVSSYLEGQAQKEFLAWLVKGR 30
   |||||
DB 1 HAEGTTSDVSSYLEGQAQKEFLAWLVKGR 30

RESULT 15.
US-09-206-601-21
; Sequence 21, Application US/09206601A
; GENERAL INFORMATION:
; APPLICANT: DONG, ZHENG XIN
; TITLE OF INVENTION: ANALOGUES OF GLP-1
; FILE REFERENCE: 00537/186001
; CURRENT APPLICATION NUMBER: US/09/206,601A
; CURRENT FILING DATE: 1998-12-07
; NUMBER OF SEQ ID NOS: 363
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 21
; LENGTH: 30
; TYPE: PRT
; ORGANISM: Artificial Sequence

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Query Match          98.7%; Score 153; DB 13; Length 30;
Best Local Similarity 96.7%; Pred. No. 3.7e-15;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY      1 HAEGFTSDVSSYLEGQAQAEFLAWLVKGR 30
|||||
DDB     1 HAEGFTSDVSSYLEGQAQAEFLAWLVKGR 30
|||||

RESULT 12
US-08-934-171-53
; Sequence 53, Application US/08934171
; GENERAL INFORMATION:
; APPLICANT: Stout, Jay
; APPLICANT: Partridge, Bruce
; APPLICANT: Henriksen, Dennis
; APPLICANT: Holmquist, Barton
; APPLICANT: Wagner, Fred
; TITLE OF INVENTION: PRODUCTION OF C-TERMINAL AMIDATED
; TITLE OF INVENTION: PEPTIDES FROM RECOMBINANT PROTEIN CS
; NUMBER OF SEQUENCES: 63
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Merchant & Gould
; STREET: 3100 Northwest
; CITY: Mpls
; STATE: MN
; COUNTRY: USA
; ZIP: 55402
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: DOS
; SOFTWARE: FastSeq Version 1.5
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/934,171
; FILING DATE:
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/350,528
; FILING DATE: 07-DEC-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Carter, Charles G
; REGISTRATION NUMBER: 35,093
; REFERENCE/DOCKET NUMBER: 8648.43US01
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 332-5300
; TELEFAX:
; TELEX:
; INFORMATION FOR SEQ ID NO: 53:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 30 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; HYPOTHETICAL: NO
; ANTI-SENSE: NO
; FRAGMENT TYPE: internal
; ORIGINAL SOURCE:
; US-08-934-171-53

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	Query Match	98.7%	Score 153;	DB 13;	Length 30;
	Best Local Similarity	96.7%;	Pred. NO.	3.7e-15;	
	Matches	29; Conservative	1;	Mismatches 0;	Indels 0; Gaps 0;
QY	1	HAEGTFTSDVSYLEGGAKEFLAWVKGR	30		
Dh	1	HAEGTFTSDVSYLEGGAKEFLAWVKGR	30		


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; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Mutagen
; FEATURE:
; NAME/KEY: MOD_RES
; LOCATION: (1)
; OTHER INFORMATION: [125I]-3-Iodotyrosine
; FEATURE:
; OTHER INFORMATION: this sequence has an amidated c-terminus
US-09-206-601-21

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Query Match      98.7%  Score 153;  DB 16;  Length 30;
Best Local Similarity 96.7%  Pred. No. 3.7e-15;
Matches 29;  Conservative 1;  Mismatches 0;  Indels 0;  Gaps 0;

QY  1 HAEGFTSDVSSYLEGQAQAEFLAWLVKGR 30
    |||||
Db   1 HAEGFTSDVSSYLEGQAQAEFLAWLVKGR 30
    |||||

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Search completed: August 7, 2002, 09:20:20
Job time: 239 sec

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GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.

OM protein - protein search, using sw model

Run on: August 7, 2002, 09:17:16 ; Search time 23 Seconds
(without alignments)
201.831 Million cell updates/sec

Title: US-09-635-679C-3

Sequence: 1 HAEGTFTSDVSSYLEGAAKEFLAWLVKGR 30

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 475226 seqs, 154737215 residues

Total number of hits satisfying chosen parameters: 475226

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

- 1: Pending_Patents_AA_New.*
- 2: /cgn2_6/ptodata/2/paa/PCT_NEW_COMB.pcp.*
- 3: /cgn2_6/ptodata/2/paa/US06_NEW_COMB.pcp.*
- 4: /cgn2_6/ptodata/2/paa/US07_NEW_COMB.pcp.*
- 5: /cgn2_6/ptodata/2/paa/US08_NEW_COMB.pcp.*
- 6: /cgn2_6/ptodata/2/paa/US09_NEW_COMB.pcp.*
- 7: /cgn2_6/ptodata/2/paa/US10_NEW_COMB.pcp.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	155	100.0	30	5	US-09-635-679C-3
2	153	98.7	30	1	PCT-US02-13088-4
3	153	98.7	30	5	US-09-635-679C-4
4	153	98.7	30	5	US-09-635-679C-2
5	153	98.7	30	6	US-08-622-105-3
6	153	98.7	30	6	US-10-072-540A-4
7	153	98.7	30	6	US-10-125-255-1
8	153	98.7	31	1	PCT-US02-13088-3
9	153	98.7	31	6	US-10-072-540A-1
10	153	98.7	31	6	US-10-055-259-3
11	153	98.7	31	6	US-10-169-657-1
12	153	98.7	31	6	PCT-US02-13088-2
13	153	98.7	36	1	PCT-US02-13088-2
14	153	98.7	36	6	US-10-055-259-2
15	153	98.7	37	1	PCT-US02-13088-1
16	153	98.7	37	6	US-10-055-259-1
17	153	98.7	52	1	PCT-US02-08650-29
18	153	98.7	52	1	PCT-US02-09815-29
19	153	98.7	52	6	US-10-112-582-29
20	153	98.7	154	5	US-09-402-093B-20
21	153	98.7	180	5	US-09-635-679C-2
22	153	98.7	184	5	US-09-402-093B-22
23	153	98.7	184	5	US-09-402-093B-23
24	153	98.7	184	5	US-09-674-777B-5
25	153	98.7	187	5	US-09-402-093B-21
26	150	96.8	31	5	US-09-398-111-1

Sequence 2, Appli
Sequence 3, Appli
Sequence 85, Appli
Sequence 86, Appli
Sequence 10, Appli
Sequence 92, Appli
Sequence 93, Appli
Sequence 11, Appli
Sequence 82, Appli
Sequence 83, Appli
Sequence 89, Appli
Sequence 90, Appli
Sequence 5, Appli
Sequence 5, Appli
Sequence 11, Appli
Sequence 12, Appli
Sequence 13, Appli
Sequence 14, Appli
Sequence 15, Appli

ALIGNMENTS

RESULT 1
US-09-635-679C-3
; Sequence 3, Application US/09635679C
; GENERAL INFORMATION:
; APPLICANT: Habener, Joel
; TITLE OF INVENTION: Insulinotropic Hormone and Uses Thereof
; FILE REFERENCE: 0609.1090009
; CURRENT APPLICATION NUMBER: US/09/635,679C
; PRIOR FILING DATE: 2000-08-10
; PRIOR APPLICATION NUMBER: 09/090,949
; PRIOR FILING DATE: 1998-06-05
; PRIOR APPLICATION NUMBER: 08/749,762
; PRIOR FILING DATE: 1996-11-20
; PRIOR APPLICATION NUMBER: 08/156,800
; PRIOR FILING DATE: 1993-11-23
; PRIOR APPLICATION NUMBER: 09/532,111
; PRIOR FILING DATE: 1990-06-01
; PRIOR APPLICATION NUMBER: 07/148,517
; PRIOR FILING DATE: 1988-01-26
; PRIOR APPLICATION NUMBER: 06/859,928
; PRIOR FILING DATE: 1986-05-05
; NUMBER OF SEQ ID NOS: 4
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 3
; LENGTH: 30
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Insulinotropic peptide
US-09-635-679C-3

Query Match 100.0%; Score 155; DB 5; Length 30;
Best Local Similarity 100.0%; Pred. No. 5.7e-17;
Matches: 30; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGAAKEFLAWLVKGR 30
Db 1 HAEGTFTSDVSSYLEGAAKEFLAWLVKGR 30

RESULT 2
PCT-US02-13088-4
; Sequence 4, Application PC/TUS0213088
; GENERAL INFORMATION:
; APPLICANT: Restoragen, Inc.
; TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR TREATING CONDITIONS ASSOCIATED WITH
; FILE REFERENCE: RGN-3

```

? CURRENT APPLICATION NUMBER: PCT/US02/13088
?
? CURRENT FILING DATE: 2002-04-24
? NUMBER OF SEQ ID NOS: 13
? SOFTWARE: PatentIn version 3.1
? SEQ ID NO 4
? LENGTH: 30
? TYPE: prt
? ORGANISM: mammalian
? PCT-US02-13088-4

```

Query Match 98.7%; Score 153; DB 1; Length 30;
Best Local Similarity 96.7%; Pred. No. 1.2e-16;
Matches 29; Conservative 1; Mismatches 0; Indels

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QY      1 HAEGTFTSDVSSYLEGAAKEFLAWLVKGR 30
        |||||
Dh      1 HAEGTFTSDVSSYLEGAAKEFLAWLVKGR 30
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RESULT 3
US-09-635-679C-4

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US-09-635-679C-4
; Sequence 4, Application US/09635679C
; GENERAL INFORMATION:
; APPLICANT: Habener, Joel
; TITLE OF INVENTION: Insulinotropic Hormone and Uses Thereof
; FILE REFERENCE: 0609.1090009
; CURRENT APPLICATION NUMBER: US/09/635,679C
; CURRENT FILING DATE: 2000-08-10
; PRIOR APPLICATION NUMBER: 09/030,949
; PRIOR FILING DATE: 1998-06-05
; PRIOR APPLICATION NUMBER: 08/749,762
; PRIOR FILING DATE: 1996-11-20
; PRIOR APPLICATION NUMBER: 08/156,800
; PRIOR FILING DATE: 1993-11-23
; PRIOR APPLICATION NUMBER: 09/532,111
; PRIOR FILING DATE: 1990-06-01
; PRIOR APPLICATION NUMBER: 07/148,517
; PRIOR FILING DATE: 1988-01-26
; PRIOR APPLICATION NUMBER: 06/859,928
; PRIOR FILING DATE: 1986-05-05
; NUMBER OF SEQ ID NOS: 4
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 4
; LENGTH: 30
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: insulinotropic peptide
; US-09-635-679C-4

```

Query Match 98.7%; Score 153; DB 5; Length 30;
Best Local Similarity 96.7%; Pred. No. 1.2e-16;
Matches 29; Conservative 1; Mismatches 0; Indels

QY 1 HAECTFTSDVSSYLEGQAAKEFLAWLVKGR 30
|||||
DB 1 HAECTFTSDVSSYLEGQAAKEFLAWLVKGR 30
|||||

RESULT 4
US-09-622-105-3

US-09-6222-105-3
 ; Sequence 3, Application US/09622105
 ; GENERAL INFORMATION:
 ; APPLICANT: YOUNG, ANDREW A.
 ; APPLICANT: VINE, WILL
 ; APPLICANT: BEELEY, NIGEL R.A.
 ; APPLICANT: PRICKETT, KATHYRN S.
 ; TITLE OF INVENTION: INOTROPIC AND DIURETIC EFFECTS OF EXENDIN AND GLP-1
 ; FILE REFERENCE: 256-152 US
 ; CURRENT APPLICATION NUMBER: US/09/622,105
 ; CURRENT FILING DATE: 2000-09-22

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, NUMBER OF SEQ ID NOS: 65
, SOFTWARE: Patent Ver. 2.1
, SEQ ID NO: 3
, LENGTH: 30
, TYPE: PRT
, ORGANISM: Homo sapiens
, FEATURE:
, OTHER INFORMATION: GLP-1
, US-09-622-105-3

```

Query Match 98.7%; Score 153; DB 5; Length 30;
Best Local Similarity 96.7%; Pred. No. 1.2e-16;
Matches 29; Conservative 1; Mismatches 0; Indels

QY	: : HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30
PB	: : HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30

```

RESULT 5
US-10-072-540A-4
Sequence 4, Application US/10072540A
GENERAL INFORMATION:
APPLICANT: Hoffmann, James
TITLE OF INVENTION: GLP-1 FORMULATIONS
FILE REFERENCE: X-11368A
CURRENT APPLICATION NUMBER: US/10/072,540A
CURRENT FILING DATE: 2002-02-08
PRIOR APPLICATION NUMBER: US 6/087,600
PRIOR FILING DATE: 1997-12-05
NUMBER OF SEQ ID NOS: 5
SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
LENGTH: 30
TYPE: PRT
ORGANISM: Homo sapiens
FEATURES:
NAME/KEY: MOD_RES
LOCATION: (30)..(30)
OTHER INFORMATION: AMIDATION
US-10-072-540A-4

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Query Match 98.7%; Score 153; DB 6; Length 30;
Best Local Similarity 96.7%; Pred. No. 1.2e-16;
Matches: 29; Conservative 1; Mismatches 0; Indels

QY 1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30

```

RESULT      i 6
US-10-125-255-1
? Sequence 1, Application US/10125255
?
? GENERAL INFORMATION:
?
? APPLICANT: Galloway, John A
? APPLICANT: Hoffmann, James A
? APPLICANT: Hoffmann, James A
? TITLE OF INVENTION: Glucagon-Like Insulin
? FILE REFERENCE: X-9332E
? CURRENT APPLICATION NUMBER: US/10/125,255
? PRIORITY FILING DATE: 2002-04-17
? PRIOR APPLICATION NUMBER: 09/573,809
? PRIOR FILING DATE: 2000-05-18
? NUMBER OF SEQ ID NOS: 1
?
? SOFTWARE: Patencin version 3.1
?
? SEQ ID NO 1
?
? LENGTH: 30
?
? TYPE: PRT
? ORGANISM: Homo sapiens
? FEATURE:
? NAME/KEY: MOD_RES

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; LOCATION: (30)...(30)
; OTHER INFORMATION: The arginine residue at position 30 is modified so as to replace
; INFORMATION: the terminal carboxyl group with an amine.
US-10-125-255-1

Query Match 98.7%; Score 153; DB 6; Length 30;
Best Local Similarity 96.7%; Pred. No. 1.2e-16;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAQAEFLAWLVKGR 30
|||||
DB 1 HAEGFTSDVSSYLEGQAQAEFLAWLVKGR 30

RESULT 7
US-10-055-259-4
; Sequence 4, Application US/10055259
; GENERAL INFORMATION:
; APPLICANT: Holst, Jens J.
; TITLE OF INVENTION: GLP-1 AS A DIAGNOSTIC TEST TO DETERMINE Beta-CELL FUNCTION AND TH

; FILE REFERENCE: P03987US1
; CURRENT APPLICATION NUMBER: US/10/055,259
; CURRENT FILING DATE: 2002-06-21
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 4
; LENGTH: 30
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-055-259-4

Query Match 98.7%; Score 153; DB 6; Length 30;
Best Local Similarity 96.7%; Pred. No. 1.2e-16;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAQAEFLAWLVKGR 30
|||||
DB 1 HAEGFTSDVSSYLEGQAQAEFLAWLVKGR 30

RESULT 8
PCT-US02-13088-3
; Sequence 3, Application PC/TUS0213088
; GENERAL INFORMATION:
; APPLICANT: Restoragen, Inc.
; TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR TREATING CONDITIONS ASSOCIATED WITH

; FILE REFERENCE: RGN-3
; CURRENT APPLICATION NUMBER: PCT/US02/13088
; CURRENT FILING DATE: 2002-04-24
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 3
; LENGTH: 31
; TYPE: PRT
; ORGANISM: mammalian
PCT-US02-13088-3

Query Match 98.7%; Score 153; DB 1; Length 31;
Best Local Similarity 96.7%; Pred. No. 1.2e-16;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAQAEFLAWLVKGR 30
|||||
DB 1 HAEGFTSDVSSYLEGQAQAEFLAWLVKGR 30

RESULT 9

US-10-072-540A-1
; Sequence 1, Application US/10072540A
; GENERAL INFORMATION:
; APPLICANT: Hoffmann, James
; TITLE OF INVENTION: GLP-1 FORMULATIONS
; FILE REFERENCE: X-11368A
; CURRENT APPLICATION NUMBER: US/10/072,540A
; CURRENT FILING DATE: 2002-02-08
; PRIOR APPLICATION NUMBER: US 60/067,600
; PRIOR FILING DATE: 1997-12-05
; NUMBER OF SEQ ID NOS: 5
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 1
; LENGTH: 31
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-072-540A-1

Query Match 98.7%; Score 153; DB 6; Length 31;
Best Local Similarity 96.7%; Pred. No. 1.2e-16;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAQAEFLAWLVKGR 30
|||||
DB 1 HAEGFTSDVSSYLEGQAQAEFLAWLVKGR 30

RESULT 10
US-10-055-259-3
; Sequence 3, Application US/10055259
; GENERAL INFORMATION:
; APPLICANT: Holst, Jens J.
; TITLE OF INVENTION: GLP-1 AS A DIAGNOSTIC TEST TO DETERMINE Beta-CELL FUNCTION AND

; FILE REFERENCE: P03987US1
; CURRENT APPLICATION NUMBER: US/10/055,259
; CURRENT FILING DATE: 2002-06-21
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 3
; LENGTH: 31
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-055-259-3

Query Match 98.7%; Score 153; DB 6; Length 31;
Best Local Similarity 96.7%; Pred. No. 1.2e-16;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAQAEFLAWLVKGR 30
|||||
DB 1 HAEGFTSDVSSYLEGQAQAEFLAWLVKGR 30

RESULT 11
US-10-169-657-1
; Sequence 1, Application US/10169657
; GENERAL INFORMATION:
; APPLICANT: Eli Lilly and Company
; TITLE OF INVENTION: Process for Solubilizing Glucagon-Like Peptide 1 Compounds

; FILE REFERENCE: X-11708
; CURRENT APPLICATION NUMBER: US/10/169,657
; CURRENT FILING DATE: 2002-06-28
; PRIOR APPLICATION NUMBER: US 60/178,438
; PRIOR FILING DATE: 2000-01-27
; PRIOR APPLICATION NUMBER: US 60/224,058
; PRIOR FILING DATE: 2000-08-09
; NUMBER OF SEQ ID NOS: 36
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 1

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; LENGTH: 31
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-169-657-1

Query Match          98.7%; Score 153; DB 6; Length 31;
Best Local Similarity 96.7%; Pred. No. 1.2e-16;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAAKEFLAFLVKGK 30
    |||||
Db 1 HAEGTFTSDVSSYLEGQAAKEFLAFLVKGK 36

RESULT 12
US-10-169-657-36
; Sequence 36, Application US/10169657
; GENERAL INFORMATION:
; APPLICANT: Eli Lilly and Company
; TITLE OF INVENTION: Process for Solubilizing Glucagon-Like Peptide 1 Compounds
; FILE REFERENCE: X-11708
; CURRENT APPLICATION NUMBER: US/10/169,657
; CURRENT FILING DATE: 2002-06-28
; PRIOR FILING DATE: 2000-01-27
; PRIOR APPLICATION NUMBER: US 60/178,438
; PRIOR FILING DATE: 2000-08-09
; NUMBER OF SEQ ID NOS: 36
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 36
; LENGTH: 31
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic construct
; NAME/KEY: VARIANT
; LOCATION: (31)..(31)
; OTHER INFORMATION: X at position 31 is NH2
US-10-169-657-36

Query Match          98.7%; Score 153; DB 6; Length 31;
Best Local Similarity 96.7%; Pred. No. 1.2e-16;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAAKEFLAFLVKGK 30
    |||||
Db 1 HAEGTFTSDVSSYLEGQAAKEFLAFLVKGK 30

RESULT 13
PCT-US02-13088-2
; Sequence 2, Application PC/TUS0213088
; GENERAL INFORMATION:
; APPLICANT: Restoragen, Inc.
; TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR TREATING CONDITIONS ASSOCIATED WITH
; TITLE OF INVENTION: RESISTANCE
; FILE REFERENCE: RGN-3
; CURRENT APPLICATION NUMBER: PCT/US02/13088
; CURRENT FILING DATE: 2002-04-24
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
; LENGTH: 36
; TYPE: PRT
; ORGANISM: mammalian
PCT-US02-13088-2

Query Match          98.7%; Score 153; DB 1; Length 36;
Best Local Similarity 96.7%; Pred. No. 1.4e-16;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAAKEFLAFLVKGK 30
    |||||
Db 1 HAEGTFTSDVSSYLEGQAAKEFLAFLVKGK 36

RESULT 14
US-10-055-259-2
; Sequence 2, Application US/10055259
; GENERAL INFORMATION:
; APPLICANT: Vilsbøll, Jens J.
; TITLE OF INVENTION: GLP-1 AS A DIAGNOSTIC TEST TO DETERMINE Beta-CELL FUNCTION AND
; TITLE OF INVENTION: PRESENCE OF THE CONDITION OF ICT AND TYPE-II DIABETES
; FILE REFERENCE: P03987US1
; CURRENT APPLICATION NUMBER: US/10/055,259
; CURRENT FILING DATE: 2002-06-21
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
; LENGTH: 36
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-055-259-2

Query Match          98.7%; Score 153; DB 6; Length 36;
Best Local Similarity 96.7%; Pred. No. 1.4e-16;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAAKEFLAFLVKGK 30
    |||||
Db 1 HAEGTFTSDVSSYLEGQAAKEFLAFLVKGK 36

RESULT 15
PCT-US02-13088-1
; Sequence 1, Application PC/TUS0213088
; GENERAL INFORMATION:
; APPLICANT: Restoragen, Inc.
; TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR TREATING CONDITIONS ASSOCIATED WI
; TITLE OF INVENTION: RESISTANCE
; FILE REFERENCE: RGN-3
; CURRENT APPLICATION NUMBER: PCT/US02/13088
; CURRENT FILING DATE: 2002-04-24
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 1
; LENGTH: 37
; TYPE: PRT
; ORGANISM: mammalian
PCT-US02-13088-1

Query Match          98.7%; Score 153; DB 1; Length 37;
Best Local Similarity 96.7%; Pred. No. 1.5e-16;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAAKEFLAFLVKGK 30
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Db 1 HAEGTFTSDVSSYLEGQAAKEFLAFLVKGK 36

Search Completed: August 7, 2002, 09:20:49
Job time: 213 sec
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; LENGTH: 31
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-169-657-1

Query Match          98.7%; Score 153; DB 6; Length 31;
Best Local Similarity 96.7%; Pred. No. 1.2e-16;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAAKEFLAFLVKGK 30
    |||||
Db 1 HAEGTFTSDVSSYLEGQAAKEFLAFLVKGK 30

RESULT 12
US-10-169-657-36
; Sequence 36, Application US/10169657
; GENERAL INFORMATION:
; APPLICANT: Eli Lilly and Company
; TITLE OF INVENTION: Process for Solubilizing Glucagon-Like Peptide 1 Compounds
; FILE REFERENCE: X-11708
; CURRENT APPLICATION NUMBER: US/10/169,657
; CURRENT FILING DATE: 2002-06-28
; PRIOR FILING DATE: 2000-01-27
; PRIOR APPLICATION NUMBER: US 60/178,438
; PRIOR FILING DATE: 2000-08-09
; NUMBER OF SEQ ID NOS: 36
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 36
; LENGTH: 31
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic construct
; NAME/KEY: VARIANT
; LOCATION: (31)..(31)
; OTHER INFORMATION: X at position 31 is NH2
US-10-169-657-36

Query Match          98.7%; Score 153; DB 6; Length 31;
Best Local Similarity 96.7%; Pred. No. 1.2e-16;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAAKEFLAFLVKGK 30
    |||||
Db 1 HAEGTFTSDVSSYLEGQAAKEFLAFLVKGK 30

RESULT 13
PCT-US02-13088-2
; Sequence 2, Application PC/TUS0213088
; GENERAL INFORMATION:
; APPLICANT: Restoragen, Inc.
; TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR TREATING CONDITIONS ASSOCIATED WITH
; TITLE OF INVENTION: RESISTANCE
; FILE REFERENCE: RGN-3
; CURRENT APPLICATION NUMBER: PCT/US02/13088
; CURRENT FILING DATE: 2002-04-24
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
; LENGTH: 36
; TYPE: PRT
; ORGANISM: mammalian
PCT-US02-13088-2

Query Match          98.7%; Score 153; DB 1; Length 36;
Best Local Similarity 96.7%; Pred. No. 1.4e-16;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAAKEFLAFLVKGK 30
    |||||
Db 1 HAEGTFTSDVSSYLEGQAAKEFLAFLVKGK 36

RESULT 14
US-10-055-259-2
; Sequence 2, Application US/10055259
; GENERAL INFORMATION:
; APPLICANT: Vilsbøll, Jens J.
; TITLE OF INVENTION: GLP-1 AS A DIAGNOSTIC TEST TO DETERMINE Beta-CELL FUNCTION AND
; TITLE OF INVENTION: PRESENCE OF THE CONDITION OF ICT AND TYPE-II DIABETES
; FILE REFERENCE: P03987US1
; CURRENT APPLICATION NUMBER: US/10/055,259
; CURRENT FILING DATE: 2002-06-21
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
; LENGTH: 36
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-055-259-2

Query Match          98.7%; Score 153; DB 6; Length 36;
Best Local Similarity 96.7%; Pred. No. 1.4e-16;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAAKEFLAFLVKGK 30
    |||||
Db 1 HAEGTFTSDVSSYLEGQAAKEFLAFLVKGK 36

RESULT 15
PCT-US02-13088-1
; Sequence 1, Application PC/TUS0213088
; GENERAL INFORMATION:
; APPLICANT: Restoragen, Inc.
; TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR TREATING CONDITIONS ASSOCIATED WI
; TITLE OF INVENTION: RESISTANCE
; FILE REFERENCE: RGN-3
; CURRENT APPLICATION NUMBER: PCT/US02/13088
; CURRENT FILING DATE: 2002-04-24
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 1
; LENGTH: 37
; TYPE: PRT
; ORGANISM: mammalian
PCT-US02-13088-1

Query Match          98.7%; Score 153; DB 1; Length 37;
Best Local Similarity 96.7%; Pred. No. 1.5e-16;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAAKEFLAFLVKGK 30
    |||||
Db 1 HAEGTFTSDVSSYLEGQAAKEFLAFLVKGK 36

Search Completed: August 7, 2002, 09:20:49
Job time: 213 sec
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GenCore version 4.5
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OM protein - protein search, using sw model

Run on: August 7, 2002, 09:18:11 ; Search time 10.34 Seconds
(without alignments)
112.339 Million cell updates/sec

Title: US-09-635-679C-3

Perfect score: 155

Sequence: 1 HAEGETTSDVSSYLEGAAKEFLAWLKGR 30

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 105224 seqs, 38719550 residues

Total number of hits satisfying chosen parameters: 105224

Minimum DB seq length: 0

Maximum DB seq length: 20000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : SwissProt_40:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	153	98.7	158	1	GLUC_PIG
2	153	98.7	180	1	GLUC_BOVIN
3	153	98.7	180	1	GLUC_CAVPO
4	153	98.7	180	1	GLUC_HUMAN
5	153	98.7	180	1	GLUC_MESAU
6	153	98.7	180	1	GLUC_MOUSE
7	153	98.7	180	1	GLUC_OCTDE
8	153	98.7	180	1	GLUC_RAT
9	141	91.0	151	1	GLUC_CHICK
10	127	81.9	103	1	GLUC_RANCA
11	124	80.0	30	1	GLUC_ANGAN
12	118	76.1	122	1	GLUC_LOPAM
13	114	73.5	71	1	GLUC_ICTPU
14	114	73.5	78	1	GLUC_LEPSP
15	112	72.3	71	1	GLUC_PIRAME
16	111	71.6	68	1	GLUC_ONCKI
17	108.5	70.0	33	1	GLUC_ORENI
18	108	69.7	121	1	GLUC_CARAU
19	101	65.2	96	1	GLUC_MYOSC
20	95	61.3	29	1	GLUC_TORMA
21	94	60.6	124	1	GLUC_LOPAM
22	93	60.0	29	1	GLUC_SCYCA
23	91	58.7	29	1	GLUC_CALMI
24	88	56.8	29	1	GLUC_DIDMA
25	88	56.8	29	1	GLUC_LAMFL
26	88	56.8	29	1	GLUC_RABIT
27	88	56.8	36	1	GLUC_ORENI
28	88	56.8	69	1	GLUC_CANFA
29	86	55.5	29	1	GLUC_ANAPL
30	85	54.8	29	1	GLUC_CHIBR
31	85	54.8	87	1	EXE4_HELUSU
32	84	54.2	29	1	GLUC_PLAPE
33	83	53.5	39	1	EXE3_HELHO

34 81 52.3 75 1 GLUC_AMICA
35 77 49.7 36 1 GLUC_HYDCO
36 61 39.4 72 1 VIP_BOVIN
37 61 39.4 72 1 VIP_PIG
38 61 39.4 72 1 VIP_RABIT
39 61 39.4 170 1 VIP_HUMAN
40 61 39.4 170 1 VIP_MOUSE
41 61 39.4 170 1 VIP_RAT
42 59 38.1 42 1 GIP_BOVIN
43 59 38.1 42 1 GIP_PIG
44 59 38.1 121 1 SECR_HUMAN
45 59 38.1 144 1 GIP_MOUSE

P3328 amia calva
P09682 hydrolagus
P81401 bos taurus
P01284 sus scrofa
P32649 oryctolagus
P01282 homo sapien
P32648 mus musculu
P01283 rattus norv
P09680 bos taurus
P01281 sus scrofa
P09683 homo sapien
P48756 mus musculu

ALIGNMENTS

RESULT
GLUC_PIG STANDARD; PRT; 158 AA.
ID GLUC_PIG
AC P01274;
DT 21-JUL-1986 (Rel. 01, Created)
DT 01-NOV-1990 (Rel. 16, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Glucagon precursor [Contains: Glucicentin; Glucicentin-related polypeptide
DE (GRPP); Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon-like
DE peptide 2 (GLP2)] (Fragment).
GN GCG.
OS Sus scrofa (Pig).
OC Eukaryota; Metazoa; Chordata; Craniala; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
OX NCBI_TaxID=9823;
RN [1]
RP SEQUENCE OF 1-69.
RX METLINE=81248172; PubMed=6894800;
RA Thim L., Woody A.J.;
RT "The primary structure of porcine glicentin (proglucagon).";
RL Regul. Pept. 2:139-150(1981).
RN [2]
RP SEQUENCE OF 1-69.
RX MEDLINE=82221776; PubMed=7045833;
RA Thim L., Woody A.J.;
RT "The amino acid sequence of porcine glicentin.";
RL Peptides 2 Suppl. 2:37-39(1981).
RN [3]
RP SEQUENCE OF 33-61.
RA Brömer W.W., Sinn L.G., Behrens O.K.;
RT "The amino acid sequence of glucagon. V. Location of amide groups,
RT acid degradation studies and summary of sequential evidence.";
RL J. Am. Chem. Soc. 79:2807-2810(1957).
RN [4]
RP SEQUENCE OF 78-107.
RX MEDLINE=89327238; PubMed=2753890;
RA Orskov C., Bersani M., Johnsen A.H.;
RT "Complete sequences of glucagon-like peptide-1 from human and pig
RT small intestine.";
RL J. Biol. Chem. 264:12826-12829(1989).
RN [5]
RP SEQUENCE OF 111-158.
RX MEDLINE=88243712; PubMed=3379036;
RA Buhl T., Thim L., Kofod H., Orskov C., Harling H., Holst J.J.;
RT "Naturally occurring products of proglucagon 111-160 in the porcine
RT and human small intestine.";
RL J. Biol. Chem. 263:8621-8624(1988).
RN [6]
RP X-RAY: CRYSTALLOGRAPHY (3.0 ANGSTROMS).
RX MEDLINE=76051297; PubMed=171582;
RA Sasak K., Dockerill S., Adamiak D.A., Tickle I.J., Blundell T.L.;
RT "X-ray analysis of glucagon and its relationship to receptor
RT binding.";
RL Nature 257:751-757(1975).
CC -1: FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLUCOGEN AND LIPIDS, AND
CC RAISES THE BLOOD SUGAR LEVEL.

CC IN RESPONSE TO A-DROP IN BLOOD SUGAR CONCENTRATION.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
CC
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CC
CC EMBL: K00107; AAA30538.1;
CC PIR: A01538; GCB0.
CC HSP: P01274; IGCN.
CC InterPro: IPR000532; Glucagon.
CC Pfam: PF00123; hormone2; 3.
CC PRINTS: PR00275; GLUCAGON.
CC SMART: SM00070; GLUCA; 3.
CC PROSITE: PS00260; GLUCAGON; 4.
CC Glucagon family; Hormone; Cleavage on pair of basic residues; Signal.
CC SIGNAL 1 20 GLICENTIN-RELATED POLYPEPTIDE.
CC PEPTIDE 21 50 GLUCAGON.
CC PEPTIDE 53 81 GLUCAGON-LIKE PEPTIDE 1.
CC PEPTIDE 92 128 GLUCAGON-LIKE PEPTIDE 2.
CC PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
CC SEQUENCE 180 AA; 20944 MW; 809B4FF05B9F15FF CRC64;
CC
Query Match 98.7%; Score 153; DB 1; Length 180;
Best Local Similarity 96.7%; Pred. No. 9.3e-15;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
QY 1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30
DB 98 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 127
RESULT 3
GLUC_CAVPO STANDARD; PRT; 180 AA.
ID GLUC_CAVPO
AC P05110;
DT 13-AUG-1987 (Rel. 05, Created)
DT 13-AUG-1987 (Rel. 05, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Glucagon precursor [Contains: Glucicentin-related polypeptide (GRPP)];
DE Glucagon; Glucagon-37 (Oxyntomodulin); Glucagon-like peptide 1 (GLP1);
DE Glucagon-like peptide 2 (GLP2)].
GN GCG;
OS Cavia porcellus (Guinea pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.
OX NCBI_TaxID=10141;
RN [1];
RP SEQUENCE FROM N.A.
RX MEDLINE=86248118; PubMed=3755107;
RA Seino S., Welsh M., Bell G.I., Chan S.J., Steiner D.F.;
RT "Mutations in the guinea pig preproglucagon gene are restricted to a
RT specific portion of the prohormone sequence.";
RL FEBS Lett. 203:25-30(1986).
RN [2];
RP SEQUENCE OF 53-81;
RX MEDLINE=86165412; PubMed=3956884;
RA Huang C.G., Eng J., Pan Y.-C.E., Hulmes J.D., Yalow R.S.;
RT "Guinea pig glucagon differs from other mammalian glucagons.";
RL Diabetes 35:508-512(1986).
RN [3];
RP PARTIAL SEQUENCE OF 53-89;
RX MEDLINE=86017849; PubMed=4048553;
RA Cicalo J.M., Hansen H.F., Schwartz T.W.;
RT "Primary structure of glucagon and a partial sequence of
RT oxyntomodulin (glucagon-37) from the guinea pig.";
RL Reguli. Pept. 11:309-320(1985).
CC -1- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND

CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC -1- MISCELLANEOUS: X'S IN THE SEQUENCE WERE INCLUDED BY HOMOLOGY WITH
CC HUMAN SEQUENCE.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
CC PIR: A01540; GCBP.
CC PDB: 1GCN; 30-SEP-83.
CC InterPro: IPR000532; Glucagon.
CC Pfam: PF00123; hormone2; 3.
CC SMART: SM00070; GLUCA; 3.
CC PROSITE: PS00260; GLUCAGON; 3.
CC Glucagon family; Hormone; Cleavage on pair of basic residues;
CC 3D-structure.
CC NON_TER 1 1 GLICENTIN.
CC PEPTIDE 1 69 GLICENTIN-RELATED POLYPEPTIDE.
CC PEPTIDE 1 30 GLUCAGON.
CC PEPTIDE 33 61 GLUCAGON-LIKE PEPTIDE 1.
CC PEPTIDE 78 107 GLUCAGON-LIKE PEPTIDE 2.
CC PEPTIDE 126 158 GLUCAGON-LIKE PEPTIDE 2.
CC HELIX 39 42
CC TURN 43 45
CC TURN 46 55
CC TURN 56 57
CC SEQUENCE 158 AA; 18212 MW; 28C6FCF257F333B2 CRC64;
CC
Query Match 98.7%; Score 153; DB 1; Length 158;
Best Local Similarity 96.7%; Pred. No. 8.1e-15;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
QY 1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30
DB 78 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 107
RESULT 2
GLUC_BOVIN STANDARD; PRT; 180 AA.
ID GLUC_BOVIN
AC P01272;
DT 21-JUL-1986 (Rel. 01, Created)
DT 13-AUG-1987 (Rel. 05, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Glucagon precursor [Contains: Glucicentin-related polypeptide (GRPP)];
DE Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon-like peptide 2
DE (GLP2)].
GN GCG;
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Bovinae; Bos.
OX NCBI_TaxID=9913;
RN [1];
RP SEQUENCE FROM N.A.
RX MEDLINE=8329996; PubMed=6577439;
RA Lopez L.C., Frazier M.L., Su C.-J., Kumar A., Saunders G.F.;
RT "Mammalian pancreatic preproglucagon contains three glucagon-related
RT peptides.";
RL Proc. Natl. Acad. Sci. U.S.A. 80:5485-5489(1983).
RN [2];
RP SEQUENCE OF 53-81.
RX MEDLINE=7116645; PubMed=5102927;
RA Bromer W.W., Boucher M.E., Koffenberger J.E. Jr.;
RT "Amino acid sequence of bovine glucagon.";
RL J. Biol. Chem. 246:2822-2827(1971).
CC -1- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND
CC RAISES THE BLOOD SUGAR LEVEL.
CC -1- INDUCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLUS
CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS

CC RAISES THE BLOOD SUGAR LEVEL.
 CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
 CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
 CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 CC -----
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 CC -----
 CC EMBL: D00014; BAA00010.1;
 CC PIR: A24856; GCGP.
 CC HSSP: P01274; IGCN.
 CC InterPro: IP000532; Glucagon.
 CC Pfam: PF00123; hormone2; 3.
 CC PRINTS: PR00275; GLUCAGON.
 CC SMART: SM00070; GLUCA; 3.
 CC PROSITE: PS00260; GLUCAGON; 4.
 CC Glucagon family; Hormone; Cleavage on pair of basic residues; Signal.
 CC SIGNAL 1 20
 CC PEPTIDE 21 50 GLICENTIN-RELATED POLYPEPTIDE.
 CC PEPTIDE 53 81 GLUCAGON.
 CC PEPTIDE 53 89 GLUCAGON-37.
 CC PEPTIDE 92 128 GLUCAGON-LIKE PEPTIDE 1.
 CC PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
 CC SEQUENCE 180 AA; 20972 MW; 702FB181161D2776 CRC64;
 CC SQ

Query Match 98.7%; Score 153; DB 1; Length 180;
 Best Local Similarity 96.7%; Pred. No. 9.3e-15;
 Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAQAEFLAWLVKGR 30
 DB 98 HAEGFTSDVSSYLEGQAQAEFLAWLVKGR 127
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 |||||

RESULT 4
 ID GLUC_HUMAN
 AC P01275; STANDARD; PRT; 180 AA.

DT 21-JUL-1986 (Rel. 01, Created)
 DT 13-AUG-1987 (Rel. 05, Last sequence update)
 DT 16-OCT-2001 (Rel. 40, Last annotation update)
 DE Glucagon precursor [Contains: Glucicentin-related polypeptide (GRPP);
 DE Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon-like peptide 2
 DE (GLP2)].
 GN GCG.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
 OX NCBI-TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA MEDLINE=88330860; PubMed=2901414;
 RX Drucker D.J., Asa S.;
 RL "Glucagon gene expression in vertebrate brain.";
 RL J. Biol. Chem. 263:13475-13478(1988).
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=86259053; PubMed=3725587;
 RA White J.W., Saunders G.F.;
 RT "Structure of the human glucagon gene.";
 RL Nucleic Acids Res. 14:4739-4750(1986).
 RN [3]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Liver;

RX MEDLINE=83271477; PubMed=6877358;
 RA Bell G.I., Sanchez-Pescador R., Laybourn P.J., Najarian R.C.;
 RT "Exon duplication and divergence in the human preproglucagon gene.";
 RL Nature 304:368-371(1983).
 RN [4]
 RP SEQUENCE OF 53-81;
 RA Thompson J., Kristiansen K., Brunfeldt K., Sundby F.;
 RL "The amino acid sequence of human glucagon.";
 RL FEBS Lett. 21:315-319(1972).
 RN [5]
 RP SEQUENCE OF 98-127;
 RX MEDLINE=83327238; PubMed=2753890;
 RA Orskov C., Bersani M., Johnsen A.H., Hoejrup P., Holst J.J.;
 RT "Complete sequences of glucagon-like peptide-1 from human and pig
 RT small intestine.";
 RL J. Biol. Chem. 264:12826-12829(1989).
 RN [6]
 RP X-RAY CRYSTALLOGRAPHY (3.0 ANGSTROMS) OF 53-81.
 RX MEDLINE=98334683; PubMed=9667960;
 RA Styrud N.S., Lin Y., Burley S.K., Krstenansky J.L., Ahn J.M.,
 RA Azizeh B.Y., Trivedi D., Hruby V.J.;
 RT "Structure-function studies on positions 17, 18, and 21 replacement
 RT analogues of glucagon: the importance of charged residues and salt
 RT bridges in glucagon biological activity.";
 RL J. Med. Chem. 41:2693-2700(1998).
 CC -1- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND
 CC RAISES THE BLOOD SUGAR LEVEL.
 CC -1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLUS
 CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
 CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
 CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC -1- PHARMACEUTICAL: Available under the names Glucagon (Eli Lilly) and
 CC Glucagon or Glucagon Novo Nordisk (Novo Nordisk). Used to treat
 CC severe hypoglycemia in insulin-dependent diabetics.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 CC -1- DATABASE: NAME=Glucagon at Eli Lilly;
 CC NOTE=Clinical information on Eli Lilly glucagon products;
 CC WWW="http://www.lillydiabetes.com/products/PatientInfo.cfm".
 CC -----
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 CC or send an email to license@isb-sib.ch).
 CC -----
 CC EMBL: J04040; AAA52567.1;
 CC EMBL: X03991; CAA27627.1;
 CC EMBL: V01515; CAA24759.1;
 CC PIR: A24377; GCHU;
 CC PIR: S23309; S23309.
 CC PIR: 1BH0; 18-NOV-98.
 CC MIM: 231530;
 CC InterPro: IP000532; Glucagon.
 CC Pfam: PF00123; hormone2; 3.
 CC PRINTS: PR00275; GLUCAGON.
 CC SMART: SM00070; GLUCA; 3.
 CC PROSITE: PS00260; GLUCAGON; 4.
 CC Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
 CC Pharmaceutical; 3D-structure.
 CC SIGNAL 1 20
 CC PEPTIDE 21 50 GLICENTIN-RELATED POLYPEPTIDE.
 CC PEPTIDE 53 81 GLUCAGON.
 CC PEPTIDE 98 127 GLUCAGON-LIKE PEPTIDE 1.
 CC PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
 CC CONFLICT 82 82 K -> N (IN REF. 3).
 CC SEQUENCE 180 AA; 20909 MW; 7A99EEC629B2862C CRC64;
 CC SQ

Query Match 98.7%; Score 153; DB 1; Length 180;

Best Local Similarity 96.7%; Pred. No. 9.3e-15; Mismatches 1; Indels 0; Gaps 0;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30
DB 98 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 127

RESULT 5
ID GLUC_MESAU STANDARD; PRT; 180 AA.

AC P01273; 1986 (Rel. 01, Created)
DT 21-JUL-1986 (Rel. 33, Last sequence update)
DT 01-FEB-1996 (Rel. 40, Last annotation update)
DE Glucagon precursor [Contains: Glucocentin-related polypeptide (GRPP);
DE Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon-like peptide 2
DE (GLP2)].
GN GCG.
OS Mesocricetus auratus (Golden hamster).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
OC Mesocricetus.
OX NCBI_TaxID=10036;
RN [1].
RP SEQUENCE FROM N.A.
RX MEDLINE=83167563; PubMed=6835407;
RA Bell G.I.; Santerre R.F.; Mullenbach G.T.;
RT "Hamster proglucagon contains the sequence of glucagon and two
RL Nature 302:716-718(1983).
RN [2].
RP REVISIONS TO 12-15.
RA Bell G.I.;
RL Submitted (JUN-1985) to the EMBL/GenBank/DBJ databases.

CC -1- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND
CC -1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILUS
CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.

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CC or send an email to license@isb-sib.ch).

EMBL: J00059; AAA37074.1;
PIR: A01539; GCHY.
HSP: P01274; IGCN.
InterPro: IPR000532; Glucagon.
Pfam: PF00123; hormone2; 3.
PRINTS: PR00275; GLUCAGON.
SMART: SM00070; GLUCA; 3.
PROSITE: PS00260; GLUCAGON; 4.
KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal.
FT SIGNAL 1 20
FT PEPTIDE 21 50 GLUCENTIN-RELATED POLYPEPTIDE.
FT PEPTIDE 53 81 GLUCAGON.
FT PEPTIDE 92 128 GLUCAGON-LIKE PEPTIDE 1.
FT PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
FT PEPTIDE 180 AA; 20954 MW; 02791B49D7AADD4B CRC64;
SQ SEQUENCE

Query Match 98.7%; Score 153; DB 1; Length 180;
Best Local Similarity 96.7%; Pred. No. 9.3e-15;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30
DB 98 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 127

RESULT 6
ID GLUC_MOUSE STANDARD; PRT; 180 AA.

AC P55095;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 01-MAR-2002 (Rel. 41, Last annotation update)
DE Glucagon precursor [Contains: Glucocentin-related polypeptide (GRPP);
DE Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon-like peptide 2
DE (GLP2)].
GN GCG.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1].
RP SEQUENCE FROM N.A.
RX MEDLINE=95247722; PubMed=7730317;
RA Rothberg M.E.; Eilertson C.D.; Klein K.; Zhou Y.; Linberg I.;
RX McDonald J.K.; Mackin R.B.; Noe B.D.;
RT "Processing of mouse proglucagon by recombinant prohormone convertase
RT 1 and immunopurified prohormone convertase 2 in vitro."
RL J. Biol. Chem. 270:10136-10146(1995).
RN [2].
RP SEQUENCE FROM N.A.
RA Shamsadin R.; Knebel W.;
RL Submitted (JUN-2000) to the EMBL/GenBank/DBJ databases.

CC -1- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND
CC -1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILUS
CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.

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EMBL: Z46845; CAA86902.1;
PIR: AF276754; AAK96898.1;
HSP: P01274; IGCN.
MG3: MGI:95674; GCG.
InterPro: IPR000532; Glucagon.
Pfam: PF00123; hormone2; 3.
PRINTS: PR00275; GLUCAGON.
SMART: SM00070; GLUCA; 3.
PROSITE: PS00260; GLUCAGON; 4.
KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal.
FT SIGNAL 1 20
FT PEPTIDE 21 50 GLUCENTIN-RELATED POLYPEPTIDE.
FT PEPTIDE 53 81 GLUCAGON.
FT PEPTIDE 92 128 GLUCAGON-LIKE PEPTIDE 1.
FT PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
FT PEPTIDE 180 AA; 20906 MW; 595AA6DD9A589950 CRC64;
SQ SEQUENCE

Query Match 98.7%; Score 153; DB 1; Length 180;
Best Local Similarity 96.7%; Pred. No. 9.3e-15;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30
 |
Dd 98 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 127

RESULT	7
GLUC_OCTDE	
ID	GLUC_OCTDE STANDARD; PRT; 180 AA.
AC	P22890;
AT	01-AUG-1991 (Rel. 19, Created)
DT	01-AUG-1991 (Rel. 19, Last sequence update)
DT	16-OCT-2001 (Rel. 40, Last annotation update)
DE	Glucagon precursor [Contains: Glucicentin-related polypeptide (GRPP);
DE	Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon-like peptide 2
DE	(GLP2)].
GN	GCG.
OS	Ocotodon degus (Degu).
OC	Eukaryota; Metazoa; Chordata; Cranialia; Vertebrata; Euteleostomi;
OC	Mammalia; Eutheria; Rodentia; Hystricognathi; Octodontidae; Ocotodon
OX	NCBITaxID=10160;
RN	[1]
RP	SEQUENCE FROM N.A.
RA	MEDLINE=91155952; PubMed=2293024;
KX	Nishi M., Steiner D.F.;
RT	"Cloning of complementary DNAs encoding islet amyloid polypeptide,
RT	insulin, and glucagon precursors from a New World rodent, the degu,
RT	Ocotodon degus.";
RL	Mol. Endocrinol. 4:1192-1198(1990).
CC	-1- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, P
CC	RAISES THE BLOOD SUGAR LEVEL.
CC	-1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES CYT
CC	HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED VILLO
CC	CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
CC	-1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
CC	IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC	-1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
CC	-----
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CC	use by non-profit institutions as long as its content is in n
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CC	entities requires a license agreement (See http://www.lsb-slb.ch/ann
CC	or send an email to license@lsb-slb.ch).
CC	-----
EMBL:	M57688; AAA40588.1; ..
HSP:	C361118; GCRTDU.
DNR	HSP; P01274; IGCN.
DNR	InterPro: IPR000532; Glucagon.
DNR	Pfam: PF00123; hormone2; 3.
DNR	PRINTS: PR00275; GLUCAGON
DNR	SMART: SM00070; GLUCA; 3.
DNR	PROSITE: PS00260; GLUCAGON; 4.
KW	Glucagon family; Hormone; Cleavage on pair of basic residues; Signal
KW	Amdation.
FT	SIGNAL 1 20
FT	PEPTIDE 21 50 GLICENTIN-RELATED POLYPEPTIDE.
FT	PEPTIDE 53 81 GLUCAGON.
FT	PEPTIDE 92 127 GLUCAGON-LIKE PEPTIDE 1.
FT	PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
FT	MOD_RES 127 127 AMIDATION (G-128 PROVIDE AMIDE GROUP).
SQ	SEQUENCE 180 AA; 221165 MW; 6EB836160A9A3051 CRC64.

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Query Match      98.7%; Score 153; DB 1; Length 180;
Best Local Similarity 96.7%; pred. No. 9.3e-15;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

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Qy	1	HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR	30
Db	98	HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR	127

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RESULTS:
GLUC-RAT 1 STANDARD; PRT; 180 AA.
ID GLUC-RAT
AC P06983;
DT 01-JAN-1988 (Rel. 06; Created)
DT 01-JAN-1988 (Rel. 06; Last sequence update)
DT 16-OCT-2001 (Rel. 40; Last annotation update)
DE Glucagon precursor [Contains: Glucitin-related polypeptide (GRPP);
DE Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon-like peptide 2
DE (GSP2)].
GN GCG...
OS Rattus norvegicus (Rat).
OC Eumetazoa; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
CC Mammalia; Euthera; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
ON NCBI_Taxid=10116;
RX MEELINE-85054853; PubMed=6094539;
RA Heinrich G., Gros P., Habener J.F.;
RT "Glucagon gene sequence. Four of six exons encode separate functional
domains of rat pre-proglucagon."
RL J.Mol. Biol. Chem. 259:14082-14087(1984).
RN SEQUENCE FROM N.A.
RP SEQUENCE FROM N.A.
RX MEELINE-85051023; PubMed=6548696;
RA Heinrich G., Gros P., Lund P.K., Bentley R.C., Habener J.F.;
RT "Pre-proglucagon messenger ribonucleic acid: nucleotide and encoded
amino acid sequences of the rat pancreatic complementary
deoxyribonucleic acid";
RL Endocrinology 115:2176-2181(1984).
RN SEQUENCE FROM N.A.
RX MEELINE-86304324; PubMed=3528148;
RA Mojsov S., Heinrich G., Wilson I.B., Ravazzola M., Orci L.,
Habener J.F.;
RT "Preproglucagon gene expression in pancreas and intestine diversifies
at the level of post-translational processing".
RL J.Biol. Chem. 261:11880-11889(1986).
RN FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND
RAISES THE BLOOD SUGAR LEVEL.
CC -1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLUS
HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
CC -1- INDUCTION: PRODUCED IN THE CELLS OF THE ISLETS OF LANGERHANS
IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
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or send an email to license@ebi.ac.uk).
CC EMBL: K02813; AAA41235.1;
DR EMBL: K02809; AAA41235.1; JOINED.
CC EMBL: K02810; AAA41235.1; JOINED.
DR EMBL: K02811; AAA41235.1; JOINED.
CC EMBL: K02812; AAA41235.1; JOINED.
DR PIR: A22655; GCRT.
CC PIR: A44198; A44198..
DR HSSP: P01274; 1GCN..
DR InPro: IPRO00532; Glucagon.
DR Pfam: PF00123; hormone2_3.
DR PRNTS: PR00275; GLUCAGON.
DR SMART: SM00070; GLUCA; 3.
DR PROSITE: PS00260; GLUCAGON; 4.
KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal.
FT SIGNAL 1 20
FT PEPTIDE 21 50 GLICENTIN-RELATED POLYPEPTIDE.
FT PEPTIDE 51 81 GLUCAGON.
FT PEPTIDE 92 128 GLUCAGON-LIKE PEPTIDE 1.

QY 1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30
 II:|||||:|||||:|||||:|||||:|||||
 Db 39 HADGTTSDMSSYLEEKAKEFDWLKGR 68

RESULT 11
 GLUM_ANGAN STANDARD; PRT; 30 AA.
 AC P41521;
 DT 01-NOV-1995 (Rel. 32, Created)
 DT 01-NOV-1995 (Rel. 32, Last sequence update)
 DT 01-NOV-1995 (Rel. 32, Last annotation update)
 DE Glucagon-like peptide (GLP).
 OS Anguilla rostrata (European freshwater eel), and
 OS Anguilla anguilla (European eel).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Anguilliformes; Anguillidae;
 OC Anguillidae; Anguilla.
 OX NCBI_TaxID=7936, 7938;
 RN [1]
 RP SEQUENCE.
 RC TISSUE=Pancreas;
 RX MEDLINE=91340068; PubMed=1874385;
 RA Conlon J.M., Andrews P.C., Thim L., Moon T.W.;
 RT "The primary structure of glucagon-like peptide but not insulin has
 been conserved between the American eel, Anguilla rostrata and the
 European eel, Anguilla anguilla.";
 RL Gen. Comp. Endocrinol. 82:23-32(1991).
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 DR PIR: B61125; B61125.
 DR PIR: C61125; C61125.
 DR HSP; P01275; IBB0.
 DR InterPro; IPR000532; Glucagon.
 DR Pfam; PF00123; hormone2; 1.
 DR PRINTS; PR00275; GLUCAGON.
 DR SMART; SM00070; GLUCA; 1.
 DR PROSITE; PS00260; GLUCAGON; 1.
 KW Glucagon family; Amidation.
 FT MOD_RES 30 30
 SQ SEQUENCE 30 AA; 3376 MW; 592DA5EABD6E49D0 CRC64;

Query Match 80.0%; Score 124; DB 1; Length 30;
 Best Local Similarity 76.7%; Pred. No. 2e-11;
 Matches 23; Conservative 4; Mismatches 3; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30
 II:|||||:|||||:|||||:|||||:|||||
 Db 1 HAEGTFTSDVSSYLEGQAAKEFVSWLKGR 30

RESULT 12
 GLU2_LOPAM STANDARD; PRT; 122 AA.
 AC P04092;
 DT 01-NOV-1986 (Rel. 03, Created)
 DT 01-NOV-1986 (Rel. 03, Last sequence update)
 DT 16-OCT-2001 (Rel. 40, Last annotation update)
 DE Glucagon II precursor [Contains: Glucocorticoid-related polypeptide (GRPP);
 Glucagon II; Glucagon-like peptide II].
 OS Lophius americanus (American goosefish) (Anglerfish).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
 OC Acanthomorpha; Paracanthopterygii; Lophiiformes; Lophiidae; Lophius.
 OX NCBI_TaxID=8073;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC MEDLINE=83135785; PubMed=6338015;
 RX Lund P.K., Goodman R.H., Montminy M.R., Dee P.C., Habener J.F.;
 RA "Anglerfish islet pre-proglucagon II. Nucleotide and corresponding
 amino acid sequence of the cDNA.";
 RT J. Biol. Chem. 258:3280-3284(1983).

RP PROCESSING.
 RX MEDLINE=86286913; PubMed=3526301;
 RA Noe B.D., Andrews P.C.;
 RT "Specific glucagon-related peptides isolated from anglerfish islets
 and metabolic cleavage products of (pre)proglucagon-II.";
 RL Peptides 7:331-339(1986).
 CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
 CC THE BLOOD SUGAR LEVEL.
 CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
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 CC -----
 DR EMBL; V00632; CAA23905.1;
 DR PIR; A05150; GCAF2.
 DR HSP; P01274; IGCN.
 DR InterPro; IPR000532; Glucagon.
 DR Pfam; PF00123; hormone2; 2.
 DR PRINTS; PR00275; GLUCAGON.
 DR SMART; SM00070; GLUCA; 2.
 DR PROSITE; PS00260; GLUCAGON; 2.
 KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal.
 FT SIGNAL 1 21
 FT PEPTIDE 22 49 GLUCANTIN-RELATED POLYPEPTIDE.
 FT PEPTIDE 52 80 GLUCAGON II.
 FT PROPEP 83 86
 FT PEPTIDE 89 119 GLUCAGON-LIKE PEPTIDE II.
 SQ SEQUENCE 122 AA; 14171 MW; 5140AC47EF915519 CRC64;

Query Match 76.1%; Score 118; DB 1; Length 122;
 Best Local Similarity 70.0%; Pred. No. 6e-10;
 Matches 21; Conservative 6; Mismatches 3; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30
 II:|||||:|||||:|||||:|||||:|||||
 Db 39 HADGTTSDVSSYLEGQAAKEFVSWLKGR 118

RESULT 13
 GLUC_IGTPU STANDARD; PRT; 71 AA.
 AC P04093;
 DT 01-NOV-1986 (Rel. 03, Created)
 DT 01-MAR-1989 (Rel. 10, Last sequence update)
 DT 01-NOV-1990 (Rel. 16, Last annotation update)
 DE Glucagon precursor (Fragment).
 OS Ictalurus punctatus (Channel catfish).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Ostariophysi;
 OC Siluriformes; Ictaluridae; Ictalurus.
 OX NCBI_TaxID=7998;
 RN [1]
 RP SEQUENCE.
 RC TISSUE=Pancreas;
 RX MEDLINE=87156787; PubMed=3030323;
 RA Hozsein N.M., Mahrenholz A.M., Andrews P.C., Gurd R.S.;
 RT "Biological activities of catfish glucagon and glucagon-like
 peptide.";
 RL Biochem. Biophys. Res. Commun. 143:87-92(1987).
 RN [2]
 RP SEQUENCE.
 RC TISSUE=Pancreas;
 RX MEDLINE=85157536; PubMed=3838546;
 RA Andrews P.C., Ronner P.;

Wed Aug 7 10:40:11 2002

Search completed: August 7, 2002, 09:21:37
Job time: 206 sec

us-09-635-679c-3.rsp

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GenCore version 4.5
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OM protein - protein search, using sw model

Run on: August 7, 2002, 09:15:16 ; Search time 14.78 Seconds
(without alignments)
195.039 Million cell updates/sec

Title: US-09-635-679C-3

Perfect score: 155

Sequence: 1 HAEGTFTSDVSSYLEGQAQKEFLAWLVKGR 30

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 283138 seqs, 96089334 residues

Total number of hits satisfying chosen parameters: 283138

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : PIR71.*

1: p1r1.*

2: p1r2.*

3: p1r3.*

4: p1r4.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	153	98.7	158	1	GCPC
2	153	98.7	180	1	GCHU
3	153	98.7	180	1	GCGP
4	153	98.7	180	1	GCRTPU
5	153	98.7	180	1	GCRV
6	153	98.7	180	1	GCHY
7	153	98.7	180	1	GCHB
8	153	98.7	180	2	A57294
9	141	91.0	151	1	GCHC
10	141	91.0	206	2	I51301
11	127	81.9	101	1	GCGFB
12	124	80.0	30	2	B61125
13	124	80.0	30	2	C61125
14	118	76.1	122	1	GCAF2
15	116	74.8	66	2	I51093
16	116	74.8	178	2	I51058
17	115	74.2	63	1	GCGXA
18	114	73.5	72	1	GCGXA
19	111	71.6	60	1	GCONC
20	111	71.6	60	1	I51057
21	109	70.3	30	2	S44473
22	101	65.2	87	1	GCFIS
23	95	61.3	29	2	S07211
24	94	60.6	31	2	S44472
25	94	60.6	124	1	GCAF
26	93	60.0	29	1	GCGF
27	92	59.4	31	2	S44471
28	91	58.7	29	1	GCBN
29	88	56.8	29	1	GCPV

ALIGNMENTS

RESULT 1:

GCPC

glucagon-precursor - pig (fragment)

N:Alternate names: glucicetin; oxyntomodulin

C:Species: Sus scrofa domestica (domestic pig)

C:Date: 17-Dec-1982 #sequence_revision 31-Mar-1993 #text_change 20-Mar-1998

C:Accession: A01540; A60312; A91781; B32614; A28064

R:Thim, L.; Moody, A.J.

Regul. Pept. 2, 139-150, 1981

A:Title: The primary structure of porcine glucicetin (proglucagon).

A:Reference number: A94233; MUID:81248172

A:Accession: A01540

A:Molecule type: protein

A:Residues: 1-69 <TH1>

R:Thim, L.; Moody, A.J.

Regul. Pept. Suppl. 2, S33, 1983

A:Title: Primary structure of a possible porcine proglucagon fragment.

A:Reference number: A60312

A:Accession: A60312

A:Molecule type: protein

A:Residues: 1-30 <TH2>

A:Note: This peptide is co-secreted with glucagon from the pancreas

R:Brumer, W.W.; Sinn, L.G.; Behrens, O.K.

J. Am. Chem. Soc. 79, 2807-2810, 1957

A:Title: The amino acid sequence of glucagon. V. Location of amide groups, acid degra

A:Reference number: A91781

A:Accession: A91781

A:Molecule type: protein

A:Residues: 33-61 <BRO>

R:Orskov, C.; Bersani, M.; Johnsen, A.H.; Hojrup, P.; Holst, J.J.

J. Biol. Chem. 264, 12826-12829, 1989

A:Title: Complete sequences of glucagon-like peptide-1 from human and pig small intes

A:Reference number: A92732; MUID:89327238

A:Accession: B32614

A:Molecule type: protein

A:Residues: 78-107 <ORS>

R:Buhl, T.; Thim, L.; Kofod, H.; Orskov, C.; Harling, H.; Holst, J.J.

J. Biol. Chem. 263, 8621-8624, 1988

A:Title: Naturally occurring products of proglucagon 111-160 in the porcine and human

A:Reference number: A28064; MUID:88243712

A:Accession: A28064

A:Molecule type: protein

A:Residues: 111-158 <BUH>

C:Comment: X's represent missing amino acids, mostly basic, that are predicted to exi

C:Superfamily: glucagon

C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; int

F:1-69/Product: glucagon-69 #status experimental <G69>

F:1-30/Region: glucicetin-related peptide #status experimental

F:33-69/Product: glucagon-37 #status predicted <G37>

F:33-61/Product: glucagon #status experimental <GCN>

F:78-107/Product: glucagon-like peptide 1 #status experimental <GLI>

glucagon - turkey
glucagon - rabbit
glucagon - Arabian
glucagon - common
glucagon-69 - dog
glucagon - duck
glucagon - ostrich
glucagon - slider
glucagon I - Europ
glucagon - Chinchl
exendin-4 - Gila m
glucagon - Europea
glucagon - bigeye
exendin-3 - Mexica
glucagon - bowfin
glucagon-36 - spot

30 88 56.8 29 2 A91740
31 88 56.8 29 2 A91741
32 88 56.8 29 2 A91742
33 88 56.8 29 2 C39258
34 88 56.8 29 1 GCDG69
35 86 55.5 29 1 GCDK
36 86 55.5 29 1 A61583
37 86 55.5 29 1 GCTWS
38 86 55.5 29 2 C60840
39 85 54.8 29 1 GCB8
40 85 54.8 29 1 HGCH4G
41 84 54.2 29 1 GCFLE
42 84 54.2 29 2 A61135
43 83 53.5 39 1 HWGH32
44 81 52.3 29 2 S39018
45 77 49.7 36 1 GCFI

F:126-158/Product: glucagon-like peptide 2 #status experimental <GL2>
F:107/Modified site: amidated carboxyl end (Arg) (amide in mature form from following gl

Query Match 98.7%; Score 153; DB 1; Length 158;
Best Local Similarity 96.7%; Pred. No. 1.8e-14;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFLAWLVKGR 30

DB 78 HAEGFTSDVSSYLEGQAAKEFLAWLVKGR 107

RESULT 2

GCCHU
glucagon precursor [validated] - human
N:Contains: glidentin; glidentin-related polypeptide (GRPP); glucagon; glucagon-like pe
ke peptide 1 (tGLP1)

C:Species: Homo sapiens (man)
C:Date: 24-Apr-1984 #sequence_revision 31-Mar-1993 #text_change 08-Dec-2000

C:Accession: A24377; A44197; A30875; A32614; A01541; S23309

R:White, J.W.; Saunders, G.F.
Nucleic Acids Res. 14, 4719-4730, 1986

A:Title: Structure of the human glucagon gene.
A:Reference number: A24377; MUID:86259053

A:Accession: A24377
A:Molecule type: DNA

A:Residues: 1-180 <WHI>
A:Cross-references: GB:X03991

R:Ball, G.I.; Sanchez-Bescador, R.; Laybourn, P.J.; Najarian, R.C.
Nature 304, 368-371, 1983

A:Title: Exon duplication and divergence in the human preproglucagon gene.
A:Reference number: A44197; MUID:83271477

A:Accession: A44197
A:Molecule type: DNA

A:Residues: 1-179 <BEL>
A:Cross-references: GB:V01515; NID:g31777; PIDN:CAA24759.1; PID:g31778

R:Drucker, D.J.; Asa, S.
J. Biol. Chem. 263, 13475-13478, 1988

A:Title: Glucagon gene expression in vertebrate brain.
A:Reference number: A30875; MUID:88330860

A:Accession: A30875
A:Molecule type: mRNA

A:Residues: 1-180 <DRU>
A:Cross-references: GB:J04040; NID:g183269; PIDN:AAA52567.1; PID:g183270

R:Orskov, C.; Bersani, M.; Johnsen, A.H.; Hojrup, P.; Holst, J.J.
J. Biol. Chem. 264, 12826-12829, 1989

A:Title: Complete sequences of glucagon-like peptide-1 from human and pig small intestine
A:Reference number: A92732; MUID:89327238

A:Accession: A32614
A:Molecule type: protein

A:Residues: 98-127 <ORS>
R:Thomsen, J.; Kristiansen, K.; Brunfeldt, K.; Sundby, F.

FEBS Lett. 21, 315-319, 1972
A:Title: The amino acid sequence of human glucagon.

A:Reference number: A91373
A:Accession: A01541

A:Molecule type: protein
A:Residues: 53-81 <THO>

R:Tsuigita, A.; Takamoto, K.; Kamo, M.; Iwade, H.
Eur. J. Biochem. 206, 691-696, 1992

A:Title: C-terminal sequencing of protein. A novel partial acid hydrolysis and analysis
A:Reference number: S23188; MUID:92298996

A:Accession: S23309
A:Molecule type: protein

A:Residues: 53-81 <TSU>
C:Comment: In pancreatic alpha-cells, proglucagon is processed to glidentin-related poly

stinal L cells, proglucagon is processed to truncated glucagon-like peptide 1, glucagon
ulin.

C:Genetics:
A:Gene: GDB:GCG

A:Cross-references: GDB:119265; OMIM:138030
A:Map position: 2q36-2q37

A:Introns: 31/2; 85/2; 131/2; 179/2
C:Superfamily: glucagon
C:Keywords: amidated, carboxyl end; carbohydrate metabolism; duplication; hormone; int

F:1-20/Domain: signal sequence #status predicted <SIG>
F:21-180/Product: proglucagon #status experimental <PGC>

F:21-89/Product: glidentin #status experimental <GLN>
F:21-50/Product: glidentin-related polypeptide #status predicted <GRPP>

F:53-89/Product: oxyntomodulin #status experimental <OXN>
F:53-81/Product: glucagon #status experimental <GCN>

F:92-173/Product: major proglucagon fragment #status experimental <MPGF>
F:92-127/Product: glucagon-like peptide 1 #status experimental <GL1>

F:98-127/Product: truncated glucagon-like peptide 1 #status experimental <TGL>
F:146-173/Product: glucagon-like peptide 2 #status predicted <GL2>

F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following

Query Match 98.7%; Score 153; DB 1; Length 180;

Best Local Similarity 96.7%; Pred. No. 2.1e-14;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFLAWLVKGR 30

DB 98 HAEGFTSDVSSYLEGQAAKEFLAWLVKGR 127

RESULT 3

GCCHU

glucagon precursor - guinea pig
N:Alternate names: oxyntomodulin

N:Contains: glidentin-related peptide; glucagon; glucagon-37 (oxyntomodulin); glucago

C:Species: cavia porcellus (guinea pig)
C:Date: 30-Sep-1987 #sequence_revision 31-Dec-1992 #text_change 16-Jun-2000

C:Accession: A24856; A23849; A60323
R:Seinc, S.; Welsh, M.; Bell, G.I.; Chan, S.J.; Steiner, D.F.

FEBS Lett. 203, 25-30, 1986
A:Title: Mutations in the guinea pig preproglucagon gene are restricted to a specific

A:Reference number: A24856; MUID:86248118
A:Accession: A24856

A:Molecule type: mRNA
A:Residues: 1-180 <SEI>

A:Cross-references: DDBJ:D00014; GB:N00014; NID:9220288; PIDN:BAA00010.1; PID:9220289

R:Huang, C.G.; Eng, J.; Pan, Y.C.E.; Hulmes, J.D.; Yalow, R.S.
Diabetes 35, 508-512, 1986

A:Title: Guinea pig glucagon differs from other mammalian glucagons.
A:Reference number: A23849; MUID:86165412

A:Accession: A23849
A:Molecule type: protein

A:Residues: 53-81 <HUA>
R:Conlich, J.M.; Hansen, H.F.; Schwartz, T.W.

Regul. Pept. 11, 305-320, 1985
A:Title: Primary structure of glucagon and a partial sequence of oxyntomodulin (gluca

A:Reference number: A60323; MUID:86017849
A:Accession: A60323

A:Molecule type: protein
A:Residues: 53-81 <CON>

A:Note: glucagon-37: was not completely sequenced
C:Superfamily: glucagon

C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pan

F:1-20/Domain: signal sequence #status predicted <SIG>
F:21-180/Product: proglucagon #status predicted <PGC>

F:21-50/Product: glidentin-related peptide #status predicted
F:53-89/Product: glucagon-37 (oxyntomodulin) #status experimental <G37>

F:53-81/Product: glucagon #status experimental <GCN>
F:98-127/Product: glucagon-like peptide 1 #status predicted <GL1>

F:146-173/Product: glucagon-like peptide 2 #status predicted <GL2>
F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following

Query Match 98.7%; Score 153; DB 1; Length 180;

Best Local Similarity 96.7%; Pred. No. 2.1e-14;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFLAWLVKGR 30

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|||||
Db 98 HAEGTFTSDVSSYLEGQAQAEFLAWLVKGR 127

RESULT 4
GCRTDU
N:Contains: glucagon precursor - degu
C:Species: Octodon degus (degu)
C>Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 18-Jun-1999
C:Accession: C36118
R:Nishi, M.; Steinler, D.F.
Mol. Endocrinol. 4, 1192-1198, 1990
A:Title: Cloning of complementary DNAs encoding islet amyloid polypeptide, insulin, and
A:Reference number: A36118; MUID:91155952
A:Accession: C36118
A:Molecule type: mRNA
A:Residues: 1-180 <NIS>
A:Cross-references: GB:M57688; NID:9202467; PIDN:AAA40598.1; PID:9202468
C:Superfamily: glucagon
C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pancre
F:1-20/Domain: signal sequence #status predicted <SIG>
F:21-180/Product: proglucagon #status predicted <PGC>
F:21-50/Region: glucagon-related peptide #status predicted
F:53-81/Product: glucagon #status predicted <GCN>
F:98-127/Product: glucagon-like peptide 1 #status predicted <GL1>
F:146-178/Product: glucagon-like peptide 2 #status predicted <GL2>
F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following gl

Query Match 98.7%; Score 153; DB 1; Length 180;
Best Local Similarity 96.7%; Pred. No. 2.1e-14;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAQAEFLAWLVKGR 30
|||||
Db 98 HAEGTFTSDVSSYLEGQAQAEFLAWLVKGR 127

RESULT 5
GCRT
N:Contains: glucagon precursor - rat
C:Species: Rattus norvegicus (Norway rat)
C>Date: 30-Sep-1987 #sequence_revision 30-Sep-1987 #text_change 26-Feb-1999
C:Accession: A22655; A25190; A44198
R:Heinrich, G.; Gros, P.; Habener, J.F.
J. Biol. Chem. 259, 14082-14087, 1984
A:Title: Glucagon gene sequence: four of six exons encode separate functional domains of
A:Reference number: A22655; MUID:85054853
A:Accession: A22655
A:Molecule type: DNA
A:Residues: 1-180 <HEI>
A:Cross-references: EMBL:K02809
A:Note: the authors translated the codon TTG for residue 10 as Glu and ACC for residue
R:Mojsos, S.; Heinrich, G.; Wilson, I.B.; Ravazzola, M.; Orci, L.; Habener, J.F.
J. Biol. Chem. 261, 11880-11889, 1986
A:Title: Preproglucagon gene expression in pancreas and intestine diversifies at the lev
A:Reference number: A25190; MUID:86304324
A:Accession: A25190
A>Status: not compared with conceptual translation
A:Molecule type: mRNA
A:Residues: 1-180 <MOJ>
R:Heinrich, G.; Gros, P.; Lund, P.K.; Bentley, R.C.; Habener, J.F.
Endocrinology 115, 2176-2181, 1984
A:Title: Pre-proglucagon messenger ribonucleic acid: nucleotide and encoded amino acid
A:Reference number: A44198; MUID:85031023
A:Accession: A44198
A>Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-180 <HE2>
A:Cross-references: GB:K02809; GB:K02810; GB:K02811; GB:K02812
C:Genetics:

A:Introns: 31/2; 85/2; 131/2; 179/2
C:Superfamily: glucagon
C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pan
F:1-20/Domain: signal sequence #status predicted <SIG>
F:21-180/Product: proglucagon #status predicted <PGC>
F:21-50/Region: glucagon-related peptide #status predicted
F:53-81/Product: glucagon #status predicted <GCN>
F:98-127/Product: glucagon-like peptide 1 #status predicted <GL1>
F:146-180/Product: glucagon-like peptide 2 #status predicted <GL2>
F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following

Query Match 98.7%; Score 153; DB 1; Length 180;
Best Local Similarity 96.7%; Pred. No. 2.1e-14;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAQAEFLAWLVKGR 30
|||||
Db 98 HAEGTFTSDVSSYLEGQAQAEFLAWLVKGR 127

RESULT 6
GCCHY
glucagon precursor - golden hamster
N:Contains: glucagon-related peptide; glucagon; glucagon-like peptide 1; glucagon-11
C:Species: Mesocricetus auratus (golden hamster)
C>Date: 13-Jun-1983 #sequence_revision 13-Jun-1983 #text_change 20-Mar-1998
C:Accession: A01539
R:Bell, G.I.; Santerre, R.F.; Mullenbach, G.T.
Nature 302, 716-718, 1993
A:Title: Hamster preproglucagon contains the sequence of glucagon and two related pep
A:Reference number: A01539; MUID:83167563
A:Accession: A01539
A:Molecule type: mRNA
A:Residues: 1-180 <BEL>
A:Cross-references: EMBL:J00059
C:Superfamily: glucagon
C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pan
F:1-20/Domain: signal sequence #status predicted <SIG>
F:21-180/Product: proglucagon #status predicted <PGC>
F:21-50/Region: glucagon-related peptide #status predicted
F:53-81/Product: glucagon #status predicted <GCN>
F:98-127/Product: glucagon-like peptide 1 #status predicted <GL1>
F:146-180/Product: glucagon-like peptide 2 #status predicted <GL2>
F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following

Query Match 98.7%; Score 153; DB 1; Length 180;
Best Local Similarity 96.7%; Pred. No. 2.1e-14;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAQAEFLAWLVKGR 30
|||||
Db 98 HAEGTFTSDVSSYLEGQAQAEFLAWLVKGR 127

RESULT 7
GCBO
glucagon precursor - bovine
N:Contains: glucagon-related peptide; glucagon; glucagon-like peptide 1; glucagon-11
C:Species: Bos primigenius taurus (cattle)
C>Date: 14-Nov-1983 #sequence_revision 14-Nov-1983 #text_change 20-Mar-1998
C:Accession: A93970; A92081; A01538
R:Loper, L.C.; Frazier, M.L.; Su, C.J.; Kumar, A.; Saunders, G.F.
Proc. Natl. Acad. Sci. U.S.A. 80, 5485-5489, 1983
A:Title: Mammalian pancreatic preproglucagon contains three glucagon-related peptides
A:Reference number: A93970; MUID:83999996
A:Accession: A93970
A:Molecule type: mRNA
A:Residues: 1-180 <LOP>
A:Cross-references: EMBL:K00107
R:Bromer, W.W.; Boucher, M.E.; Koffenberger Jr., J.E.
J. Biol. Chem. 246, 2822-2827, 1971
```

A:Title: Amino acid sequence of bovine glucagon.
A:Reference number: A92081; MUID:71166445
A:Accession: A92081
A:Molecule type: protein
A:Residues: 53-81 <BRO>
C:Superfamily: glucagon
C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pancre
F:1-20/Domain: signal sequence #status predicted <SIG>
F:21-180/Product: proglucagon #status predicted <PGC>
F:53-81/Product: glucagon-like peptide #status predicted
F:98-127/Product: glucagon-like peptide 1 #status experimental <GCN>
F:146-178/Product: glucagon-like peptide 2 #status predicted <GL2>
F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following

Query Match 98.7%; Score 153; DB 1; Length 180;
Best Local Similarity 96.7%; Pred. No. 2.1e-14;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30
|||||
Db 98 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 127
|||||

RESULT 8
A57294
glucagon precursor - mouse
C:Species: Mus musculus (house mouse)
C:Date: 01-Dec-1995 #sequence_revision 01-Dec-1995 #text_change 16-Jul-1999
C:Accession: A57294; S49903
C:Rothenberg, M.E.; Eilertson, C.D.; Klein, K.; Zhou, Y.; Lindberg, I.; McDonald, J.K.;
J. Biol. Chem. 270, 10136-10146, 1995
A:Title: Processing of mouse proglucagon by recombinant prohormone convertase 1 and immu
A:Reference number: A57294; MUID:95247722
A:Accession: A57294
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-180 <ROT>
A:Cross-references: EMBL:Z46845; NID:9599880; PIDN:CAA86902.1; PID:9599881
C:Superfamily: glucagon
C:Keywords: carbohydrate metabolism; duplication; hormone; pancreas

Query Match 98.7%; Score 153; DB 2; Length 180;
Best Local Similarity 96.7%; Pred. No. 2.1e-14;
Matches 29; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30
|||||
Db 98 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 127
|||||

RESULT 9
GCCH
glucagon precursor - chicken
N:Contains: glucagon; glucagon-like peptide 1
C:Species: Gallus gallus (chicken)
C:Date: 31-Dec-1991 #sequence_revision 31-Mar-1993 #text_change 18-Jun-1999
C:Accession: S09992; A92189; A60836; A01542
C:Hasagawa, S.; Terazono, K.; Nata, K.; Takada, T.; Yamamoto, H.; Okamoto, H.
FEBS Lett. 264, 117-120, 1990
A:Title: Nucleotide sequence determination of chicken glucagon precursor cDNA. Chicken p
A:Reference number: S09992; MUID:90249492
A:Accession: S09992
A:Molecule type: mRNA
A:Residues: 1-151 <HAS>
A:Cross-references: EMBL:Y07539; NID:963749; PIDN:CAA68827.1; PID:963750
R:Pollock, H.G.; Kimmel, J.R.
J. Biol. Chem. 250, 9377-9380, 1975
A:Title: Chicken glucagon. Isolation and amino acid sequence studies.
A:Reference number: A92189; MUID:76069271
A:Accession: A92189

A:Molecule type: protein
A:Residues: 55-83 <POL>
R:Huang, J.; Eng, J.; Yalow, R.S.
Horm. Metab. Res. 19, 542-544, 1987
A:Title: Chicken glucagon: sequence and potency in receptor assay.
A:Reference number: A60836; MUID:88113418
A:Accession: A60836
A:Molecule type: protein
A:Residues: 55-83 <HJA>
C:Superfamily: glucagon
C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pan
F:1-22/Domain: signal sequence #status predicted <SIG>
F:23-151/Product: proglucagon #status predicted <PGC>
F:55-83/Product: glucagon #status experimental <GCN>
F:118-147/Product: glucagon-like peptide 1 #status predicted <GL1>
F:147/Modified site: amidated carboxyl end (Arg) (amide in mature form from following

Query Match 91.0%; Score 141; DB 1; Length 151;
Best Local Similarity 83.3%; Pred. No. 9.1e-13;
Matches 25; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30
|||||
Db 113 HAEGTFTSDVSSYLEGQAAKEFLAWLVNGR 147
|||||

RESULT 10
I51301
proglucagon - chicken
C:Species: Gallus gallus (chicken)
C:Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 16-Jul-1999
C:Accession: I51301
R:Irwin, D.M.; Wong, J.
Mol. Endocrinol. 9, 267-277, 1995
A:Title: Trout and chicken proglucagon: alternative splicing generates mRNA transcrip
A:Reference number: A55895; MUID:95295739
A:Accession: I51301
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-206 <IRW>
A:Cross-references: GB:S78477; NID:9599386; PIDN:AAB34506.1; PID:9599387
C:Superfamily: glucagon
C:Keywords: duplication

Query Match 91.0%; Score 141; DB 2; Length 206;
Best Local Similarity 83.3%; Pred. No. 1.3e-12;
Matches 25; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30
|||||
Db 118 HAEGTFTSDVSSYLEGQAAKEFLAWLVNGR 147
|||||

RESULT 11
GCFGB
glucagon precursor - bullfrog (fragments)
N:Alternate names: oxyntomodulin
N:Contains: glucagon; glucagon-36 (oxyntomodulin); glucagon-like peptide 1; glucagon-
C:Species: Rana catesbeiana (bullfrog)
C:Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 20-Mar-1998
C:Accession: B28091; C28091; D28091
R:Pollock, H.G.; Hamilton, J.W.; Rouse, J.B.; Ebner, K.E.; Rawitch, A.B.
J. Biol. Chem. 263, 9746-9751, 1988
A:Title: Isolation of peptide hormones from the pancreas of the bullfrog (Rana catesb
A:Reference number: A92730; MUID:88257102
A:Accession: B28091
A:Molecule type: protein
A:Residues: 1-36 <PO2>
A:Accession: C28091
A:Molecule type: protein
A:Residues: 37-68 <POL>

A:Accession: D28091
A:Molecule type: protein
A:Residues: 69-101 <P03>
C:Superfamily: glucagon

C:Keywords: carbohydrate metabolism; duplication; hormone; pancreas
F:1-36/Product: glucagon-36 (oxyntomodulin) #status experimental <G36>
F:1-29/Product: glucagon #status predicted <GCN>
F:37-67/Product: glucagon-like peptide 1 #status experimental <GL1>
F:69-101/Product: glucagon-like peptide 2 #status experimental <GL2>

Query Match 81.9%; Score 127; DB 1; Length 101;
Best Local Similarity 76.7%; Pred. No. 6e-11;
Matches 23; Conservative 5; Mismatches 2; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30
||:|||||:|||||:|||||:|||||:|||||
DB 37 HADGTTSDMSSYLEEKAKEFVSWLKGR 66

RESULT 12

B61125
glucagon-like peptide - American eel
C:Species: Anguilla rostrata (American eel)
C:Date: 10-Mar-1994 #sequence_revision 10-Mar-1994 #text_change 21-Nov-1997
C:Accession: B61125
R:Conlon, J.M.; Andrews, P.C.; Thim, L.; Moon, T.W.
Gen. Comp. Endocrinol. 82, 23-32, 1991
A:Title: The primary structure of glucagon-like peptide but not insulin has been conserved
A:Reference number: A61125; MUID:91340068
A:Accession: B61125

A:Molecule type: protein
A:Residues: 1-30 <CON>
C:Superfamily: glucagon
C:Keywords: amidated carboxyl end; duplication
F:1-30/Product: glucagon-like peptide #status experimental <GLP>
F:30/Modified site: amidated carboxyl end (Arg) #status predicted

Query Match 80.0%; Score 124; DB 2; Length 30;
Best Local Similarity 76.7%; Pred. No. 4.4e-11;
Matches 23; Conservative 4; Mismatches 3; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30
||||:|||||:|||||:|||||:|||||
DB 1 HAEGTFTSDVSSYLEGQAAKEFVSWLKGR 30

RESULT 13

C61125
glucagon-like peptide - European eel
C:Species: Anguilla anguilla (European eel)
C:Date: 10-Mar-1994 #sequence_revision 10-Mar-1994 #text_change 21-Nov-1997
C:Accession: C61125
R:Conlon, J.M.; Andrews, P.C.; Thim, L.; Moon, T.W.
Gen. Comp. Endocrinol. 82, 23-32, 1991
A:Title: The primary structure of glucagon-like peptide but not insulin has been conserved
A:Reference number: A61125; MUID:91340068
A:Accession: C61125

A:Molecule type: protein
A:Residues: 1-30 <CON>
C:Superfamily: glucagon
C:Keywords: amidated carboxyl end; duplication
F:1-30/Product: glucagon-like peptide #status experimental <GLP>
F:30/Modified site: amidated carboxyl end (Arg) #status experimental

Query Match 80.0%; Score 124; DB 2; Length 30;
Best Local Similarity 76.7%; Pred. No. 4.4e-11;
Matches 23; Conservative 4; Mismatches 3; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30
||||:|||||:|||||:|||||:|||||

DB 1 HAEGTFTSDVSSYLEGQAAKEFVSWLKGR 30

RESULT 14

GCAF2
glucagon-2 precursor - American goosefish
N:Contain: glucagon; glucagon-like peptide 1
C:Species: Lopholagus americanus (American goosefish)
C:Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 21-Jul-2000
C:Accession: A05150

R:Lund, P.K.; Goodmap, R.H.; Montminy, M.R.; Dee, P.C.; Habener, J.F.
J. Biol. Chem. 258, 3280-3284, 1983
A:Title: Anglerfish islet pre-proglucagon II. Nucleotide and corresponding amino acid sequence
A:Reference number: A05150; MUID:83135785
A:Accession: A05150

A:Molecule type: mRNA
A:Residues: 1-122 <LUN>
A:Cross-references: GB:J00933; NID:964021; PIDN:CAA23905.1; PID:964022
C:Superfamily: glucagon

C:Keywords: carbohydrate metabolism; duplication; hormone; pancreas
F:1-21/Domain: signal sequence #status predicted <SIG>
F:22-123/Product: proglucagon 2 #status predicted <PGC2>
F:52-80/Product: glucagon #status predicted <GCN>
F:89-119/Product: glucagon-like peptide 1 #status predicted <GL1>

Query Match 76.1%; Score 118; DB 1; Length 122;
Best Local Similarity 70.0%; Pred. No. 1.4e-09;
Matches 21; Conservative 6; Mismatches 3; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30
||:|||||:|||||:|||||:|||||:|||||
DB 39 HADGTTSDVSSYLEGQAAKEFVSWLKGR 118

RESULT 15

I51093
glucagon - chinook salmon (fragment)
C:Species: Oncorhynchus tshawytscha (chinook salmon)
C:Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 16-Jul-1999
C:Accession: I51093
R:Irwin, D.M.; Wong, J.

Mol. Endocrinol. 9, 267-277, 1995
A:Title: Trout and chicken proglucagon: alternative splicing generates mRNA transcripts

A:Reference number: A55895; MUID:95295739
A:Accession: I51093
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-66 <IRW>

A:Cross-references: EMBL:U19920; NID:9736366; PIDN:AAC59670.1; PID:9736367
C:Superfamily: glucagon
C:Keywords: duplication

Query Match 74.8%; Score 116; DB 2; Length 66;
Best Local Similarity 66.7%; Pred. No. 1.4e-09;
Matches 20; Conservative 7; Mismatches 3; Indels 0; Gaps 0;

QY 1 HAEGTFTSDVSSYLEGQAAKEFLAWLVKGR 30
||:|||||:|||||:|||||:|||||:|||||
DB 33 HADGTTSDVSSYLEGQAAKEFVSWLKGR 62

Search completed: August 7, 2002, 09:18:27
Job time: 191 sec

Wed Aug 7 10:40:10 2002

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